ANNUAL REPORT

OF THE

DEPARTMENT OF AGRICULTURE

OF THE

PROVINCE OF ALBERTA

FOR THE YEAR

1946

PUBLISHED BY ORDER OF THE LEGISLATIVE ASSEMBLY

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PRINTED BY A. SHNITKA, KING'S PRINTER
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To His Honour,
J. C. Bowen,
Lieutenant Governor of the Province of Alberta.

Sir:

I have the honour to submit herewith the Report of the Department of Agriculture for the year 1946.

I have the honour to be, Sir,

Your obedient servant,

D. B. MacMillan,
Minister of Agriculture.

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DEPARTMENT OF AGRICULTURE

1946

HON. D. B. MACMILLAN, *Minister of Agriculture*

Heads of Branches

O. S. Longman, Deputy Minister.

A. M. Wilson, Field Crops Commissioner.

A. A. Campbell, Live Stock Commissioner.

D. H. McCallum, Dairy Commissioner.

C. W. Traves, Poultry Commissioner.

R. M. Putnam, Director of Extension.

P. R. Talbot, Provincial Veterinarian.

G. S. Wilton, Acting Animal Pathologist.

W. G. leMaistre, Provincial Apiarist.

S. H. Gandier, Superintendent, Schools of Agriculture and Home Economics.

F. N. Miller, Principal, School of Agriculture, Olds.

N. N. Bentley, Principal, School of Agriculture, Vermilion.

G. S. Black, Supervisor, Junior Activities and Youth Training.

E. B. Swindlehurst, Acting Supervisor, Relief and Land Iettlement.

P. D. Hargrave, Superintendent, Brooks Horticultural Station.

J. Keith, Supervisor of Fur Farms.

REPORT OF THE DEPUTY MINISTER

(O. S. LONGMAN)

THE HONOURABLE D. B. MACMILLAN,
Minister of Agriculture.

SIR:

I have the honour to submit the fortieth Annual Report of the Alberta Department of Agriculture for the year 1946.

The year 1946 was marked by a number of events and developments that were phases of post-war readjustment. The removal of certain wartime controls and price supports for some agricultural and industrial products caused apprehension among farmers. These decontrols, together with a demand for the maintenance of parity prices for farm commodities, were responsible for a non-delivery strike called by one of the Alberta farm organizations, namely, the Alberta Farmers' Union, which claims a membership of twenty thousand farmers. The strike was effective from September 7th to October 6th. During that period in certain districts of the Province virtually no farm products were marketed. In other areas, where the Union had a limited membership, little, if any, withholding of products took place.

The year 1946 was of particular significance because of the agreements negotiated between Canada and the United Kingdom for a number of agricultural commodities. Since the agreements covered periods of more than one year, and because Alberta is vitally interested in markets for her surplus production, these developments are of far reaching importance. One of the important agreements, wheat, provides that for a four-year period a total of six hundred million bushels were to be sold at a price which would bring the farmer $1.35 f.o.b. Fort William for his wheat, with a further prospect of an additional amount being paid at the end of the time. This agreement gave farmers a reasonable assurance of a stable market for wheat. The 1947 agreement calls for a minimum of one hundred and twenty million pounds of carcass beef at prices according to grade ranging from $19.20 to $24.45 per hundred pounds frozen freight, f.o.b. seaboard. Preliminary negotiations for 1948 assure a market for one hundred and twenty million pounds at prices not less than those in effect on August 19th, 1946. Bacon contracts have been signed under which Canada will supply the United Kingdom with three hundred and fifty million pounds of Wiltshire sides in 1947 and four hundred million pounds in 1948. Further discussions are being held respecting the 1949 agreement. The contract price for Grade A Wiltshire sides, f.o.b. seaboard, was set at $25.00 per hundred pounds, affective April 1st, 1946, to December 31st, 1947. As the year ended, however, it was indicated that price adjustments and other incentives were being considered to encourage greater swine production, especially in the Prairie Provinces. The contract for mutton and lamb is for ten million pounds in 1947. Canada has agreed to supply the United Kingdom with one hundred and twenty-five million pounds of cheese and six hundred thousand 48-pint cases of evaporated milk in 1947. Another important contract of interest

to Alberta is that for poultry. This contract provides for delivery to Britain of the equivalent of eighty-three million dozen eggs during each of the years 1947 and 1948.

During 1946 the trend toward grain production continued. The acreage sown to wheat in Alberta increased by about ten per cent, while the feed grain acreage declined slightly. The production of live stock and live stock products decreased in 1946, the most serious decline being in swine which suffered a further drop from the 1945 level of about thirty-seven per cent. Swine marketings in 1946 were only forty per cent of the number produced in 1944, when a record of nearly three million hogs were marketed in Alberta. Total milk production declined by four per cent, while poultry products were slightly below the previous year. Honey production created a record in 1946. Fur farmers enjoyed a satisfactory year in volume of production, but they were handicapped by feed shortages, rising prices and lower returns on their sales.

Little change occurred during the year in the services offered by the Department. Resignations and retirements of several employees created vacancies, which remained unfilled at the close of the year due to the lack of trained personnel and more attractive salaries available in other fields. The Extension Services were expanded by the appointment of two additional District Agriculturists and two District Home Economists.

The Schools of Agriculture were obliged to refuse admittance to about 250 students because of lack of space. While this situation is partly due to the number of veterans desiring to take agricultural training, it is apparent that additional agricultural educational facilities are urgently required.

Administration of the Fur Farms Branch was transferred from the Department of Lands and Mines to the Department of Agriculture on April 1st of this year, and the report of the Fur Farm Supervisor will be found in the following pages. On July first responsibility for the agricultural programmes of the Special Areas was transferred by Order in Council from the Department of Lands and Mines to the Department of Agriculture. This transfer included the services of the Special Areas' Fieldman at Youngstown, who became a District Agriculturist at that point.

The Department organized an exhibit of live stock and grain for the Toronto Royal Winter Fair held in Toronto in November. The exhibits from Alberta maintained the reputation of this Province to a satisfactory degree.

A number of staff changes occurred. As a result of the retirement of James Murray as Principal of the Olds School of Agriculture, Mr. F. N. Miller was appointed as his successor. Mr. G. S. Black was transferred from the Live Stock Branch to Supervisor of Junior Activities, and Mr. I. A. Coles was appointed to succeed Mr. Black. Mr. W. S. Scarth resigned as Supervisor of District Agriculturists, and Mr. F. H. Newcombe was named to this position.

Among those who retired on superannuation during the year were: Mr. H. E. McDaniel, Mr. E. C. Hallman, Mr. W. Rourke, and Mr. J. R. Flan.

I wish to express my appreciation to the staff of the Department for its co-operation and loyalty during the year.

The agricultural industry and population in Alberta continues to expand. This expansion naturally creates new problems and makes

new demands upon the Department for additional services. Because of our peculiar geographical position and the diversity of our agricultural production, Alberta is interested in all consumer markets for agricultural products within and beyond the boundaries of Canada. The British bacon market presents a challenge for Alberta farmers. The extent to which Canada will retain the benefits of the British market will be determined by hog production in Alberta.

The growing demands for coarse grains in British Columbia and Eastern Canada provide a future outlet for the feed grains from our increased acreage. The aforementioned expansion of production and increased markets are creating a need for a well designed production policy for Alberta as a guide to our industries and farmers.

Yours respectfully,

O. S. LONGMAN,
Deputy Minister.

REPORT OF THE FIELD CROPS COMMISSIONER

(A. M. WILSON)

The acreage of wheat in Alberta increased by approximately 10% or 676,000 acres in 1946. This increase was accompanied by a decrease of 11% in oats and 7% in barley. The flax acreage continued to dwindle and reached a new low of 90,000 acres in spite of a guaranteed price of $3.25 per bushel. The price announcement, however, was made too late to be an effective measure for increasing flax production. Only minor fluctuations occurred in other grain crops.

Yields of grain were above average and considerably greater than in 1945. Wheat exceeded the 25-year average by 1.5 bushels per acre; oats by 2.7 and barley by 2.3.

Spring planting was well under way before the end of April. It is estimated that 30% of the wheat crop was seeded by this date. Good planting weather prevailed and crops, with the exception of late barley and greenfeed, were practically all seeded by May 31st. Precipitation was generally light during this period. Good rains occurred over southern Alberta, and in the south-western area in particular, in May and June. Central and northern Alberta remained dry until late May. Rains were general in June and early July, particularly in the central part of the Province. Less than normal rainfall was received in most districts of the Peace River Block. Dry weather prevailed during the latter half of July and early August, and crops in southern and east-central Alberta deteriorated rapidly. Fall rains delayed harvest and threshing over the greater part of central and southern Alberta, and while most of the crop was ultimately threshed a considerable portion was in tough or damp condition. Soil moisture at freeze-up in all areas except the Peace River Block was greater than has been experienced for some years. Light frosts occurred on the night of July 22nd throughout central Alberta in a line extending from Whitecourt on the west to Lloydminster on the east. Yields were reduced, particularly in the eastern regions of the frost zone. However, these losses were less severe than anticipated immediately following the frost.

Hail damage was generally less. However, a severe storm totally destroyed many acres of crops in a strip having a maximum 15-mile width which extended for 50 miles through Wetaskiwin east through Camrose. On the whole, crop failure areas were not extensive.

The areas south and east from Hanna, north from Medicine Hat and east from Bow Island have applied for assistance under The Prairie Farm Assistance Act. It is anticipated that approximately 400 townships will qualify for this assistance because of average wheat yields of less than four bushels per acre.

The Canadian Wheat Board has continued to regulate deliveries of grain to country elevators by quotas on wheat, oats and barley. At the close of the year wheat deliveries were open at practically all points, with a 15-bushel quota still in effect on oats and barley.

Forage seed production continued to increase, with particular interest centering on alsike clover. An extensive acreage of legume crops for seed production was planted, and with average returns in 1947 a large volume of seed can be anticipated. The production of mustard seed has attracted attention. This crop was grown under contract on about 17,000 acres and returned a per acre revenue comparable to wheat. This crop, although adaptable in many districts, should be confined to the open prairie areas in that admixtures of mustard seeds of the weed species will create difficult eradication problems in black soil zones.

The vegetable canning industry expanded into the Eastern Irrigation District, where a new canning factory came into production. The potato acreage also increased in this area. Sugar beets continued to be a desirable and satisfactory crop for irrigated farms served by the factories located at Raymond and Picture Butte.

The following table shows an estimate of field crops in Alberta with comparative figures for 1945:

Crop	1945 Acres	1946 Acres	1945 bus. per acre	1946 bus. per acre	Long term avge.	1945 Bushelage	1946 Bushelage
Spring Wheat	6,824,000	7,500,000	11.7	18.3	17.2	80,000,000	137,000,000
Oats	3,335,000	2,957,000	22.8	35.2	34.1	76,000,000	104,000,000
Barley	2,048,000	1,902,000	18.1	26.8	25.3	37,000,000	51,000,000
Fall Rye	83,000	90,000	14.5	16.8	13.5	1,204,000	1,510,000
Spring Rye	42,000	42,000	6.5	11.9	11.9	273,000	500,000
All Rye	125,000	132,000	11 8	15.2	12.9	1,477,000	2,010,000
Peas	24,700	19,000	10.0	16.5	14.3	247,000	314,000
Beans	200	200	10.0	15.0	13.3	2,000	3,000
Mixed Grains	62,600	39,700	22.0	29.0	26.9	1,377,000	1,151,000
Flax Seed	119,000	90,000	6.2	8.5	8.0	738,000	765,000
			cwt.	cwt.	cwt.	cwt.	cwt.
Potatoes	25,900	28,900	60.0	78.0	82.7	1,554,000	2,254,000
Turnips, etc.	3,100	2,700	63.0	83.0	113.8	195,000	224,000
			tons	tons	tons	tons	tons
Hay and Clover	692,000	662,000	1.20	1.60	1.38	830,000	1,059,000
Fodder Corn	9,100	5,900	4.25	4.00	4.22	39,000	24,000
Alfalfa	274,700	281,000	1.95	2.10	2.21	536,000	590,000
Sugar Beets	30,300	29,800	11.72	13.36	11.1	363,000	398,000

Forage Crop Encouragement Policy

The establishment of a permanent type of agriculture in this Province is dependent upon a more general use of forage crops. They are important from several standpoints, including soil conservation and improvement, weed control, and live stock production as well as efficient farm management. During recent years, the Field Crops Branch has given a good deal of attention to the promotion of these crops. It is encouraging to note that there has been a marked increase in their use during the past years. War conditions, no doubt, were partly responsible for this trend, but we believe that their value is now appreciated to a far greater extent than ever before. For this reason, a continued widespread use of foreign crops in the Province is anticipated.

The initial problem was one of education. It was necessary to introduce suitable grasses and legumes and to acquaint farmers with proper seeding and management practices. For this purpose the Provincial Government, at times in conjunction with the Dominion Government and municipalities, sponsored encouragement policies under which farmers obtained limited quantities of seed at reduced prices. In many areas the initial objectives of these policies have now been fulfilled. It is still necessary, however, to assure adequate supplies of seed to meet farmers' needs and to promote a more general and proper utilization of these crops.

The Forage Crop Encouragement Policy in operation during 1946 established a reserve of grass and legume seeds for Alberta farmers and provided readily available seed ordering and delivery facilities. The seed was sold at cost price, freight prepaid. At 209 strategically located points throughout the Province, facilities for seed ordering and distribution were established.

Because of the strong demand for Alberta grown grass and legume seeds on the export market, a particularly important function of the Forage Crop Policy continued to be the reserving of adequate supplies of seed to meet the needs of farmers. An encouragement policy cannot be effective if seed supplies are not readily available at seeding time.

A summary of seed distribution for the years 1942 to 1946 (inclusive) is as follows:

Kind of Seed	Pounds of Seed Distributed					Price
	1942	1943	1944	1945	1946	1946
Alfalfa	92,238	143,323	161,000	170,435	219,130	34c
Red Clover	7,450	12,095	8,925	28,645	72,782	31c
Alsike Clover	6,450	13,089	26,200	35,464	50,687	33c
Sweet Clover	26,185	75,759	85,000	116,890	134,962	13c
Timothy-Alsike Mixture	3,115	3,486	6,000	10,982	9,289	20c
Timothy	12,690	37,003	40,000	39,190	44,575	11c
Crested Wheat	41,225	53,640	44,436	44,035	47,621	11c
Red Fescue		1,404	2,000	1,753	5,735	68c
Red Top	340	550	220	68	158	25c
Brome	68,253	163,706	152,000	161,845	174,275	14c
Alfalfa-Sweet Clover Mixture				6,785	4,970	20c
Mixed Clovers and Timothy				4,662		
Alsike-White Dutch				1,077		
Kentucky Blue					713	36c
Reed Canary					20	48c
	263,936	504,055	525,781	622,456	764,917	

Alfalfa, brome and sweet clover are in greatest demand. Sweet clover is grown mainly in central Alberta, but alfalfa and brome are being seeded in all parts of the Province. Crested wheat is confined mainly to the drier open prairie sections, where it is a valuable hay and pasture crop, and is used in range reclamation. Red clover, alsike, and timothy are in demand in the grey and black soil areas where precipitation is ample for their growth. The large increase in the sale of red and alsike clover may be accounted for by the fact that there has been marked expansion in the acreage grown for seed. Creeping red fescue is also gaining importance as a seed crop. In conjunction with the Forage Crop Policy, the Field Crops Branch has stressed the importance of proper legume inoculation, careful seeding and management practices and the use of grass-legume mixtures for forage purposes. To ensure the inoculation of legume seeds, tins of nitro-culture were placed in all sacks of seed distributed. Farmers in districts suitable for seed production have been supplied with the best seed obtainable.

Forage Crop Testing Policy

In past years, part of the cost of forage crop seeds for distribution was absorbed by the Department of Agriculture. There is no longer any necessity for this with respect to seed distribution generally. However, in some legume seed growing areas it is considered advisable to assume part of the cost of seed in order to promote seed production and the use of good seed of a recommended variety in establishing stands for seed production. Such assistance is also beneficial in encouraging farmers to try out kinds and varieties of grasses and legumes not previously grown in their districts.

Under the terms of the Policy, the Department undertook to provide a maximum of 50 pounds of seed to a farmer, on the recommendation of the District Agriculturist, at part cost. Only one kind of seed could be obtained by a farmer, and he agreed to supply the Department, on request, with detailed information relative to the crop produced.

Under this Policy, 650 pounds of registered Grimm alfalfa, 500 pounds of registered Ferax alfalfa, 300 pounds of certified alfalfa, 770 pounds of registered Altaswede Clover, and 1,622 pounds of Creeping Red Fescue seed were distributed. Eighty-seven farmers took advantage of the Policy.

Field Peas Encouragement Policy

During the past few years the acreage of field peas in Alberta has increased. The increase has been mainly in the black and grey soil zones. This trend did not carry through into 1946, the acreage this year being less than in 1945. This crop has a place in the cropping programme of farming areas where a rotation is followed that permits it to be grown on land that is comparatively free from weeds. In order to obtain information in this regard, the Field Crops Branch shared the cost of supplying four-bushel lots of seed to each of thirteen farmers, who entered an agreement to pay approximately half the cost of the seed, to adopt recommended seeding and harvesting practices, and to report the results obtained. Twelve farmers were supplied with the variety Dashaway and one with Early Blue. The crops produced were satisfactory except where weed competition was an important factor.

The production of seed peas by farmers under contract with seed firms continued, but the acreage grown was slightly less than in 1945. The average estimated yield was 16.5 bushels per acre as compared to 10 bushels per acre in 1945, giving a net estimated total yield 25% higher than in 1945.

Production and Sale of Registered and Certified Seed

The production of registered and certified seed increased in 1946. Total production was far in excess of production for any previous year. This is gratifying, as it is essential that a good supply of carefully selected seed stocks be available to grain growers in Alberta if we are to maintain a strong export market for seed and commercial grain. The climate and soils of Alberta are well adapted to the production of high quality seed, and there is an increasing demand for Alberta grown seed in Eastern Canada and the United States. Early in the year, through the operations of the United Nations Relief and Rehabilitation administration, about 200,000 bushels of seed oats were shipped from Alberta to the war-torn areas of Europe. This market cannot be expected to continue.

Farmers received comparatively good returns for all cereal grains. This resulted in increased attention being given to the importance of pure seed stocks, and there was a very large increase in local demand for good seed, particularly of the coarse grains. On the other hand, labour and machinery shortages still handicapped seed growers. Consequently a large volume of the seed crop was marketed commercially without being processed to meet the requirements for registration or certification.

The following is a summary of the crops inspected for registration and certification in 1946:

Kind of Seed	Registered Seed			Certified Seed		
	No. Growers	Acreage	Est. Yield (bus.)	No. Growers	Acreage	Est. Yield (bus.)
Wheat	427	18,486	380,640	24	2,383	61,799
Oats	603	19,476	1,095,764	61	1,121	77,275
Barley	171	4,530	189,575	44	995	42,949
Peas	3	2½	18			
Flax	60	2,068	24,233	10	141	2,040
Rye				1	5	100
			lbs.			lbs.
Alfalfa	231	4,739	674,933	20	427	109,958
Brome	4	184	30,400	166	11,160	1,781,289
Creeping Red Fescue	8	110	20,300	28	1,597	322,770
Crested Wheat	1	11	2,000			
Red Clover	4	40	6,750			
Sweet Clover				4	100	29,500
Alsike				12	668	

Distribution of Seed Grain to Areas of Shortage

The small crop produced in 1945 as a result of drought, hail and frost resulted in large areas being without suitable coarse grains for 1946 seeding. The main large area of serious shortage lay east to the Saskatchewan boundary of a line running from Ponoka to Athabasca. There were also smaller areas of shortage north-east and north-west of Edmonton and in the area west of Red Deer. To meet this situation, grain elevator companies agreed to deliver seed oats at the one price of 70c per bushel in carlots to any point in the Province. Only graded oats coming up to the standards of No. 1, 2 or 3 seed of the general seeds of commerce were supplied under this plan. Elevator agents pooled orders where necessary to make up carlot requirements. District Agriculturists assisted in arranging details of ordering and local distribution. This plan worked very satisfactorily for everyone concerned. Areas having a surplus of high quality oats, particularly the Peace River country, were provided with a market, and areas of shortage received good seed at a reasonable price. A total of approximately 300,000 bushels were distributed under the plan.

Seed barley presented more difficulty, as there were no large areas from which to draw seed. Grain companies were not in a position to supply seed barley of suitable quality in large quantities. However, a few carloads were put into districts of shortage by grain companies. The Canada Malting Company also made several carloads of Olli and O.A.C. 21 barley available for distribution as seed. Action on the part of Agricultural Service Boards in arranging for barley, available locally, to be held and cleaned for seed solved the problem in a few districts. As it was obvious that sufficient seed would not be made available from these sources, the Field Crops Branch undertook to clean commercial barley to seed grades to meet the requirements of any area in short supply. District Agriculturists assisted with assembling orders and in the distribution of seed. In this they had the help of grain elevator agents, agricultural societies, municipal councils, and agricultural service boards. Barley was obtained from two sources—direct from farmers and the grain trade. The grain trade released carloads that showed evidence of reasonably good germination and purity as to variety. These went into the Dominion Government elevator at Edmonton for cleaning. Barley was purchased from farmers on a cleaned basis where possible, but several carloads were purchased uncleaned and shipped to the elevator at Edmonton for cleaning. More barley of the variety Olli was available than was the case with other varieties. The total distribution by the Field Crops Branch was as follows: 37,468 bushels

of Olli, 4,384 bushels of Newal, 6,793 bushels of O.A.C. 21, and 2,400 bushels of Titan. Total, 51,045 bushels.

A very large proportion of the oats and barley were cleaned in the Dominion Government elevator at Edmonton. At the same time, heavy demands were being made on the staff at the elevator for cleaning wheat for UNRRA. In spite of this, a commendable job was done, and the seed was available in time for seeding.

Forage Crop Seed Production

The trend toward increased acreages of forage crops for seed production continued. Many factors had a bearing on this trend. Probably the most important was the realization on the part of the farmers of the importance of some diversification in crops in order to stabilize farming and the attractive cash returns received especially from legume crops.

Of the legumes the greatest increases took place in the acreages of alsike and altaswede red clover. Alfalfa, being more uncertain in seed production, showed a more moderate increase, and the sweet clover acreage remained practically unchanged.

Creeping red fescue seed production increased, and in spite of a dry growing season in the Peace River area which greatly reduced yields there, the estimated production for the Province is about 12% greater than for 1945, the total estimated production of certified seed was about 323,000 pounds. In addition, seven growers with a total of 106 acres had this crop inspected for registration.

In some areas, too large a percentage of cultivated acreage is devoted to forage seed production. A crop failure or a reduced demand would be disastrous where a proper balance is not maintained. In all areas where seed is produced, emphasis needs to be placed on the production of pure seed of high quality. While the present strong demand continues, satisfactory returns can be received from seed that is not of top quality as well as for mixtures, but the grower who becomes an expert in quality seed production will continue to find a market for his product when less favourable conditions prevail.

Methods of harvesting forage crop seed have not become standardized and require considerable study. A study of harvesting losses with alsike clover carried out in 1945 indicated that direct combining of the crop usually resulted in very heavy losses through shattering. An alternative method of harvesting is by the use of a windrowing attachment on the cutting bar of a mower and picking the crop up when dry with a combine. Soil and crop samples were taken in four alsike fields in the Westlock area and three fields in the Bluffton area during the 1946 harvest season at ten-day intervals with a view to determining the optimum stake at which to windrow the crop. Samples were taken in the Bluffton area by a member of the staff of the Dominion Experimental Station, Lacombe, which institution is co-operating in the study. Results will be compiled early in 1947.

The cleaning, grading, packaging and marketing of grass and legume seeds present special problems which have stimulated interest in growers' co-operatives. The Alberta Seed Growers' Co-operative, with its affiliated district associations, operates a large, well equipped seed cleaning and warehousing establishment at Camrose. Twenty-one smaller warehouses of the Co-operative for assembling seed shipments were in operation at other points in the

Province. Other co-operatives located at Grande Prairie and at Pincher Creek provided similar services for seed growers in their respective areas.

The following figures give the estimated production in Alberta of the most important forage seed crops:

	AVERAGE 1937-42 lbs.	1943 lbs.	1944 lbs.	1945 lbs.	1946 lbs.
Alfalfa	684,000	1,450,000	2,500,000	4,000,000	3,500,000
Sweet Clover	831,000	1,500,000	4,000,000	4,000,000	5,000,000
Red Clover	132,000	450,000	475,000	1,300,000	850,000
Alsike	180,000	200,000	500,000	1,200,000	1,000,000
Timothy	958,000	1,000,000	1,200,000	1,000,000	750,000
Crested Wheat	308,000	300,000	250,000	200,000	100,000
Brome	2,042,000	4,000,000	4,000,000	4,000,000	4,500,000
Creeping Red Fescue	53,000	190,000	300,000	850,000	250,000

The Alberta Crop Improvement Association

This Association has concerned itself particularly with the problem of encouraging a wider use of registered and certified cereal grains. Through co-operation of grain companies and the Alberta Seed Growers' Co-operative, arrangements were made whereby grain elevator agents were authorized to accept farmers' orders for registered and certified seed. With a relatively light crop in the Province in 1945 and an unusually heavy demand for seed, it was difficult to supply all requirements. Scarcity of help and seed cleaning machinery were also factors in creating this problem.

The Association is directed by a committee which represents the North West Line Elevators' Association; the farmer-owned elevator companies; the Plant Products Division, Dominion Department of Agriculture; the Alberta Seed Growers' Co-operative; the Canadian Seed Growers' Association (Alberta Branch); the University of Alberta; and the Alberta Department of Agriculture.

Two important changes were made in the method of operating the seed distribution plan followed by the Association. The practice of issuing a catalogue listing graded seed in the hands of growers was discontinued, and instead a price list giving prices for the various kinds and grades was issued. The second and most important change was the appointing of the Alberta Seed Growers' Co-operative as the distributing agency for the Crop Improvement Association. Previously the Alberta Seed Growers' Co-operative had accepted listings, issued the catalogue and generally assisted the elevator companies in obtaining seed but did not actually direct the seed shipments. The grain companies also experienced difficulties and were put to considerable expense as all companies were trying to get the same seed. Costs were excessive and dissatisfaction resulted. Under the new arrangement these difficulties were, to a great extent, overcome. In order to keep seed growers advised of the situation with regard to supply and demand and to keep before them the necessity of having seed cleaned and sealed early, four circular letters were sent to all seed growers.

Registered and certified seed grain marketed through the Alberta Crop Improvement Association in 1946 in comparison with previous years was as follows:

	1941 bus.	1942 bus.	1943 bus.	1944 bus.	1945 bus.	1946 bus.
Wheat	16,000	5,961	3,000	9,232	20,014	23,728
Oats	99,000	34,659	10,500	16,011	11,670	26,560
Barley	4,500	4,349	2,500	6,579	2,450	15,492
Flax		868		1,215	328	1,194
Spring Rye						208

A great deal of credit is due to grain companies and elevator agents for the success of this policy of seed distribution. The growers themselves responded to the call for more seed, even though their production costs, which at all times are high, were much higher. It should be remembered, too, that farmers who marketed wheat as registered or certified seed did not receive the benefit of payments made by the Wheat Board on producers' certificates. However, if the market is to be supplied and maintained, they must put forth additional efforts to have their seed cleaned, inspected and sealed so that farmers who wish to make purchases will not be disappointed. It must be remembered, however, that the demand for seed may vary greatly from year to year, and some growers recall the time when their seed was cleaned, sealed and sacked and yet no orders arrived. Anticipating the demand is the problem the grower must face. Many who have emptied sealed sacks now await orders before going through the costly process of cleaning and sacking only to sell their crop as commercial grain.

The Alberta Varietal Zonation Committee

The purpose of this committee is to co-ordinate the findings of the various experimental agencies in the Province and to recommend the varieties of field crops best suited to the different agricultural zones in Alberta. The committee is composed of representatives of the following: Department of Plant Science and Department of Soils, University of Alberta; Provincial Field Crops Branch; Provincial Schools of Agriculture; Dominion Experimental Farms Service; Plant Products Division, Dominion Department of Agriculture; Dominion Laboratory of Plant Pathology, Edmonton.

The recommendations of this committee were printed in bulletin form by the Field Crops Branch and widely distributed throughout the Province.

A sub-committee on peas set up in 1944 continued to function. The Committee arranged for the testing of six varieties of peas by the Dominion Experimental Stations in the Province, the University of Alberta, the Olds and Vermilion Schools of Agriculture, and the Brooks Horticultural Station. Results for the two years, 1945 and 1946, are now available, and by continuing such tests it should be possible to give more reliable recommendations in regard to pea varieties.

The Canadian Seed Growers' Association (Alberta Branch)

At the 1945 annual meeting of the Alberta Branch of The Canadian Seed Growers' Association, it was decided that the work of the Branch would be facilitated by having as secretary a member of the staff of the Field Crops Branch. Approval of this proposal was given, and the Supervisor of the Crop Improvement Service now serves in that capacity.

At the same meeting an expansion of the work of the Branch was decided upon. The executive was instructed to arrange regional field days for seed growers at strategic points in the Province. During July and August, 1946, field days were arranged at the Dominion Experimental Station, Lethbridge, Lacombe, and Beaverlodge and at the University of Alberta, Edmonton. A programme of interest to seed growers was arranged with speakers from Experimental Stations, the Plant Products Division, the University of Alberta, the Field Crops Branch and from the membership of

the Association contributing. Attendance was very good at Beaverlodge and Lacombe, but disappointing at Lethbridge and the University. The Lacombe field day was considered the annual meeting. At this meeting the system of regional field days was approved, and the executive instructed to arrange another series in 1947 with any changes of locations it seemed wise to make in the light of experience gained in 1946. With a view to further expansion in the activities of the Branch, it was decided to levy a membership fee of $2.00 per member.

The following table gives total membership in Canada and Alberta for the years 1938 to 1945 inclusive:

Alberta:		Canada:	
1938	431	1938	2,805
1939	344	1939	3,046
1940	349	1940	3,491
1941	315	1941	3,035
1942	274	1942	2,637
1943	244	1943	2,523
1944	340	1944	2,586
1945	522	1945	2,731

The membership in 1938 was the highest up to that time. Membership fell off in Alberta during the ensuing four years, but began to increase again in 1944. It reached a new high in 1945, and field inspections would indicate that a still higher figure was reached in 1946. The rapid increase in the past two years may be accounted for partly on the basis of increased interest in registered seed grain and partly on the basis of widespread interest in the production of legume seeds in the grey and black soil zones. The membership for Canada, as a whole, has remained reasonably steady from year to year, which means that Alberta is becoming relatively more important as a seed growing area.

Provincial Junior Grain Show

The annual Provincial Junior Grain Show, which proved so successful during the three previous years, was again well supported. It was held at the School of Agriculture, Olds, at the time of their "Little Royal" in March. Only one quart of grain was required for an exhibit, so that it became largely a contest in the skill of the exhibitor in producing and preparing his exhibit. Such a challenge has an appeal to farm youth. High standards of seed are established in the minds of both the exhibitors and visitors, and greater discrimination is developed in appraising the value of grain and seed.

Competition was open to all Alberta farm young people between the ages of 12 and 22 years (inclusive). There were 83 entries in the four open classes of grain, and the quality of the exhibits was generally of an exceptionally high standard. A class was provided for representative samples of bulk lots of cleaned seed of malting barley in the farmers' bins. There were five entries in this class. In order to encourage entries from new exhibitors special prizes were offered. Thirty-six per cent of the exhibits shown were from beginners.

A total of 235 samples of grain and seed were on display at the show. Many visitors viewed the exhibit during the day of the "Little Royal," and later the display was set up at the time of the Junior Farm and Home Club Week at the Olds School of Agriculture in July.

Certified Seed Potatoes

In 1945, there were 875,820 lbs. of foundation and certified seed potatoes officially graded and tagged in Alberta.

In 1946, 710 acres of potatoes in Alberta were entered for certification. Of these, 596 acres on 159 farms passed field inspections. Acreage meeting requirements by varieties were as follows: Netted Gem, 493.6 acres; Irish Cobbler, 64.1 acres; White Rose, 12.1 acres; Carter's Early Favourite, 10.7 acres; Warba, 8.7 acres; Canus, 2.6 acres; other varieties, 4.2 acres. Total, 596 acres.

Indexed Foundation Seed Potatoes

The policy of assisting in the production of indexed foundation seed potatoes was continued. The University of Alberta, the Dominion Seed Potato Certification Service, and the Field Crops Branch co-operated in this programme in which 1,213 tubers were tested in the greenhouse for freedom from disease. The tests included selections from 10 different growers, and represented eight different varieties. Approximately 40% of the tubers planted passed the rigid tests and qualified as Indexed Foundation seed. The Field Crops Branch continued to pay a bonus to growers on the basis of one dollar for each hundredweight of foundation seed potatoes produced from indexed stocks and disposed of to other growers approved by the Branch. It is felt that this programme assists materially in maintaining pure seed stocks of selected potato varieties.

Portable Seed Cleaners

Seed cleaning equipment suitable for portable cleaning units continued in short supply. Two new Monitor type cleaners were purchased; however, they have not as yet been assembled owing to the fact that carter discs, also used in the assembly, are not available. In spite of the many applications on hand for this type of equipment, there is little immediate prospect of meeting the demand.

Portable units continued to be operated at Dickson, Willingdon, Innisfail, Gage, Berwyn, Fairview, Grande Prairie, Sangudo, Cherhill, Springbank, and South Edmonton.

Weed Control

The 1946 crop season featured an early, dry spring. While moisture from the preceding fall was sufficient to promote germination in most areas, growth of grain crops was slow, and weeds, particularly perennials, obtained an initial advantage over grain crops. The result was a heavy infestation of Canada thistle and sow thistle, particularly in central Alberta.

Soil drifting was severe in the southern part of the Province in the spring, and assumed serious proportions in the Peace River area in September and October following the dry summer.

Water erosion was reported from all parts of the Province. Sheet erosion has been taking a toll for some time, but the appearance of gullies on many farms as a further stage in soil deterioration has impressed upon farmers and others the seriousness of this type of soil loss.

In this regard, it might be mentioned that the Department of Agriculture is encouraging farmers to seed down natural waterways to grass and, where possible, to maintain a trash cover on their fields to help prevent runoff. The field demonstrations include weed control methods designed to lessen the necessity of summerfallow and thus reduce excess cultivation which encourages erosions.

The number of weed control demonstration fields was increased in 1946. They consisted of parts of farmers' fields on which cultural

practices were carried out designed to control wild oats, wild mustard, tartary buckwheat, couch grass, Canada thistle, sow thistle and hoary cress.

Late seeding of Olli barley continued to give excellent results in the control of wild oats, particularly where the crop was fertilized. Increases as high as 12 bushels per acre followed this treatment on badly infested land.

Fertilized Olli barley seeded late and followed by post seeding cultivation severely checked the growth of wild mustard and gave increases ranging up to 16 bushels per acre. Late seeded Olli barley followed with post seeding cultivation on tartary buckwheat infested land gave double the yield of the early seeded check on field tests in the area north-east of Edmonton.

One field of fertilized Olli barley seeded on land on which couch grass had been cut for hay in 1945 yielded 35 bushels per acre. The field had been plowed and double disced in the fall of 1945 and one-way disced twice in the spring of 1946.

A similar demonstration on a field badly infested with Canada thistle and sow thistle yielded over 30 bushels per acre. The crop was ready to harvest before the thistles bloomed and allowed for thorough cultivation to further weaken or eradicate the thistle infestation.

Forage crops in weed control and as a means of restoring fertility and fibre to the soil are included in the programme. Some excellent yields of hay were obtained in 1946 on fields which were badly infested with weeds when seeded in 1945.

A considerable area was seeded to fall rye for the control of hoary cress. This, however, is a three or four-year programme, and some time must elapse before the results can be assessed.

Several demonstrations of the selective control of various weeds by the use of 2,4-D were laid down in 1946. The results were not conclusive. While most of the annual weeds treated were killed, in some cases damage was also done to the grain crop.

The top growth of most perennials was destroyed, but in many instances the roots were not killed and regrowth occurred.

Applications of 2,4-D as a spray and with the turbine duster were tried. Serious damage to the grain crop resulted on the area close to the turbine where the rate of application was highest. In view of the results obtained, it would appear that it is not safe to recommend the use of 2,4-D as a selective weed killer in grain crops, at least until more information is obtained. In order to carry out the above mentioned activities and to test other chemicals in weed control, a Hardie Sprayer with a 250-gallon tank was purchased in the spring of 1946.

The number of Agricultural Service Boards was increased from 13 to 23 during 1946. A shortage of qualified men for Field Supervisors still limits the expansion of the programme. A different attitude toward weed control is apparent in districts where an active Service Board and qualified Supervisor have been at work during the past year or two. Farmers have lost to a large extent their dislike of having an "inspector" visit them, and are co-operating with the Field Supervisor in controlling weeds on their farms.

The demonstration fields on weed control, in which work the Supervisors co-operated, have proved a real success. It gives the

Supervisor proof of the advice he is giving the farmer and strengthens his position a great deal.

The Supervisors have undertaken to compile detailed information on all farms in their district on which weeds are a problem. This information is studied by the Service Board and an attempt made to assist the farmer with his problem. In some instances, farms were taken under supervision. A farm programme was drawn up with the approval of the operator concerned, and farming practices instituted which were designed to meet the individual problem as it existed on the farm. In most cases, farmers appreciate the efforts of the Board, and excellent results are achieved. In a few instances the co-operation of the operator could not be obtained, and more drastic action was necessary in order to protect the community from serious weed infestations. In these cases, possession and control of the lands was assumed by the Board under authority of The Service Board Act. Of the farms taken over in 1945, most were well on the way toward rehabilitation in 1946 and several grew excellent crops after only one year under the control of the Board.

In addition to weed control activities, the municipal Field Supervisors are taking an active part in impressing upon farmers the seriousness of the soil erosion problem. They encourage the growing of forage crops to control weeds and restore fibre to the soil and the use of competitive crops as a weed control measure instead of excessive summerfallow. Demonstrations of listing and ridging on contours with the duckfoot cultivator to prevent water erosion and soil drifting were carried out.

A demonstration of the reclamation of gullied land was a part of the programme of the Morinville Agricultural Service Board.

Twenty-three Local Improvement District Weed Inspectors and three Weed Supervisors were employed. These men are directly responsible to the Field Crops Branch. Most of the territories are in outlying districts, and many in the poorer soil areas. On the grey-wooded soils, forage crops are encouraged as a weed control measure and as a means of increasing the fertility of the soil.

Considerable quantities of sodium chlorate were used by the Local Improvement District men as the weed infestations in their areas in many cases are confined to small patches making chemical treatment practical.

The quantity of sodium chlorate distributed at cost increased from 100,000 lbs. in 1945 to 128,000 lbs. in 1946. Most of this material was used on small patches of perennials in grain fields or on areas where cultivation was impossible or impractical.

Weed infested Crown lands continue to be a problem. A policy of encouraging adjacent farmers to lease and seed these areas down to hay is gradually solving the problem. The Field Supervisors in many municipalities have taken an active part in this programme.

Inefficient seed cleaning equipment has been a serious source of infestation of farm lands in Alberta. In some instances poorly constructed equipment made proper cleaning impossible, and resulted in a mixing of different lots of seed. This in many cases resulted in the introduction of troublesome weeds into areas not affected before the alleged cleaning operation was performed. The careless handling of weed seeds has contributed to the spread of noxious weeds.

In order to exercise some control over the operation of cleaning plants and equipment and the handling of screenings, legislation

was introduced which requires that all cleaning plants processing cereal or forage crops must obtain a permit.

A permit is issued only if, in the opinion of the Field Crops Commissioner, the cleaning equipment is properly constructed and efficiently operated.

Operators of seed cleaning plants are required to report the disposal of all screenings twice per month.

Crop Protection (Pest Control)

General.

Crop injury due to diseases and insect pests was greater than in 1945. No new insect pests appeared in dangerous numbers, but cutworms, wireworms and sawflies caused greater damage. Cereal smuts, potato scab and wilt in alfalfa reduced the yield and quality of the crops concerned.

Grasshoppers.

The grasshopper egg population in the fall of 1945 over a considerable section of southern Alberta was such as to forecast a moderate outbreak for this season. However, due to various factors the population was much lighter than anticipated, and comparatively little bait was used to protect farm crops. Several severe local outbreaks occurred which caused damage before they could be brought under control. The most serious of these took place in the Eaglesham-Tangent section of the Peace River area, where several farmers lost a considerable part of their crop before the outbreak was reported. The following data compares certain aspects of the 1945 and 1946 grasshopper campaigns:

	1945	1946
Acres of land in area	10,000,500	8,000,000
Acres of crop-land menaced	158,000	60,000
Number of stations operated	18	6
Bushels of poison bait spread	83,000	16,000
Number of farmers receiving bait	560	242
Estimated acres of crop destroyed	5,000	1,200
Estimated acres of crop saved	60,000	8,000

Wheat Stem Sawfly.

Crop losses this year from the sawfly have been moderate to severe over much of the southern plains area of Alberta. The fly emergence over most of the affected area was quite heavy, and they found wheat crops in a satisfactory stage for egg laying. Heavy infestations occurred and moderately heavy losses resulted in that section enclosed by a line drawn through New Dayton, Enchant, Hussar, Calgary, Pearce and Lethbridge. In strip-farming sections, some fields suffered 100% infestation. Losses of wheat due to sawfly have been estimated at from 5% to 8% of affected acreages. Early swathing, delayed seeding and the use of traps were employed by many, and were effective in reducing losses.

Minor Crops Pests.

The pale western cutworm damaged grain crops over a wide section of southern and eastern Alberta. Considerable loss occurred in the Lethbridge, Macleod, Seven Persons, Orion, Schuler, Acadia Valley, Drumheller and Carbon districts. At Jenner, Sibbald, Enchant and Travers from 10% to 60% of the acreage seeded to cereals was infested. At Hilda and Empress up to 50% of the grain fields were partially to completely destroyed. In some cases where fields were destroyed and re-seeded the second crop was also eaten off. The outbreak is expected to continue in 1947.

Red-backed cutworms were more numerous than for several years past. In the park belt particularly, thinning of wheat and barley crops was widespread, and damage ranged from 5% to 40% in infested fields. Several cases were noted where sizable acreages of second-year stands of clover were completely destroyed. Special efforts were made to warn residents in vulnerable areas of the danger due to this insect.

The Colorado potato beetle was somewhat less destructive than in previous years. There were less beetles evident in the southern potato-producing areas than usual, while in the Edmonton area the four-year-old outbreak appeared greatly reduced from the previous season.

The potato psyllid population in the Medicine Hat district showed a definite increase. Symptoms of psyllid yellows were reported showing in quite a number of potato fields, and a few growers reported tubers affected for the first time in several years.

For the second successive season careful examination by entomologists of pea fields in the Coaldale district, which had been infested with pea weevils in 1944, failed to show any evidence that this insect is surviving there.

Cattle Grubs (Warble Flies).

The campaign to reduce damage caused by cattle grubs was continued on much the same basis and met with good success. Extensive publicity to encourage treatment of cattle was given through the press, in public meetings, personal calls, letters, hand bills and by radio. A further expansion of control resulted. While compulsion is not being recommended, the two districts of Alberta employing the principle of compulsory treatment operated satisfactorily and no direct action was needed to obtain a complete treatment of practically all cattle within their boundaries. It is estimated that at least one-half of Alberta's total cattle population was treated for grubs again this year.

Rodents.

The Columbian ground squirrel situation in the foothills area of southern Alberta noticeably improved. Very few cases of severe damage to crops or gardens were received, and it was impossible to locate an area sufficiently infested to continue trials carried on in previous seasons.

Pocket gophers are becoming a serious problem in many deep black soil districts. Many cases occurred in which they rendered hay and seed crops incapable of harvesting by throwing up mounds throughout the fields. The best available information on the control of both pocket gophers and moles was made available to farmers in affected areas. Further research toward the development of more effective controls for these rodents appears desirable.

Crop Diseases.

No improvement can be reported in the crown rot and bacterial wilt diseases of alfalfa. Crown rot caused considerable loss in central Alberta. Wilt was more in evidence this year, and damage was heavy, particularly under irrigation conditions. There is an urgent need for a wilt and crown rot resistant alfalfa to replace the susceptible varieties now in use.

Smut in cereal crops is still on the increase. Winter wheat, however, showed an improvement over 1945.

The widespread incidence of potato scab greatly reduced the quantity of potatoes of the white-skinned varieties that could qualify for seed grade.

Fire blight in apple and crab apple trees developed to serious proportions this year, and many plantings of susceptible varieties were heavily damaged.

Bacterial Ring Rot.

Bacterial ring rot in potatoes continued to be a serious problem in Alberta. Satisfactory progress is being made in bringing this disease under control. In 1943 ring rot claimed 1,775 acres of potatoes on 235 farms. By 1946 the number of affected farms had been reduced to 137, and the number of acres of diseased crops to 1,070.

Ring rot control measures were seriously impeded this year due to two factors. Because potatoes were in short supply in the spring, arrangements were made by Dominion Government Agencies to import table stocks from the United States. Many of the imports were infested with ring rot, and efforts to restrict their distribution to the institutional trade was only partially effective. It is known that some were planted in many outlying sections of the Province in spite of persistent warnings by letter, press and radio. It must therefore be assumed that ring rot is no longer entirely restricted to quarantine areas.

Due to the extreme shortage of seed potatoes of the early varieties, and because of an extensive demand from growers desiring to increase their acreages, several carloads of recommended U.S. certified No. 1 Irish Cobbler seed potatoes were imported, though restricted to quarantine areas in the southern part of the Province. Subsequent investigation has shown that each carload contained ring rot infected potatoes in spite of their certified status. These stocks contributed markedly to the disease picture this season. In spite of the above incidents a slight improvement can be reported. The following table shows the growth of the ring rot epidemic in Alberta since 1940 and its reduction to date:

	1940	1941	1942	1943	1944	1945	1946
Number of farms inspected	261	430	406	965	1,010	1,198	1,637
Number of farms found diseased	73	102	151	235	241	137	103
Increase in number of diseased farms from previous year	33	29	49	84	6	—104	—34

It may be noted that although this year's survey included 439 more farms, ring rot was found on 34 less farms than in the previous year. Also, while approximately 2,000 more acres were inspected, the amount of diseased crops showed a decline of 180 acres. The intensity of the disease in affected fields showed a further reduction. Factors contributing most to the control of ring rot in Alberta continue to be:

(1) Introduction of high quality seed.

(2) Vigorous enforcement of the quarantine regulations which include the insistence that growers plant only seed approved by the Department of Agriculture, and that they make prompt disposal of infected stocks into approved markets.

(3) Continued education and supervision respecting sanitation and other necessary precautions against infection.

Seed Potato Production.

The programme of seed potato production was continued and somewhat enlarged to meet growing requirements. Farmers in ring rot free districts were contracted to produce certified seed under supervision. This seed was shipped to pest areas, where a portion of it was multiplied as "one-year-out" stocks for wider distribution the following year. The balance was distributed generally within the areas.

This year the programme included the Netted Gem, Irish Cobbler, and Warba varieties. The Netted Gem and Warba seed was Foundation and Foundation A quality produced in Alberta, while the Irish Cobblers were of Foundation grade imported from Prince Edward Island. Due to an intense dry spell in midsummer, yields of Netted Gems were lower than expected, while high incidence of scab severely reduced the output of Irish Cobbler seed. Irish Cobblers were produced at Camrose, Lacombe and Strathmore; Warbas at Brooks, and Netted Gems at Lacombe, Brooks and Winfield. The "one-year-out" project was confined to the Lethbridge and Hillspring district. In all, 121 acres of Foundation and Foundation A seed and 59 acres of "one-year-out" stocks were included in the programme.

The varieties and quantities of potatoes handled under this programme this spring were as follows:

Variety	Grade	Quantity, lbs.
Netted Gem	Foundation A	173,000
Netted Gem	"One-year-out"	635,600
Irish Cobbler	Foundation	56,900
Irish Cobbler	"One-year-out"	30,000
Warba	Foundation A	1,000
Total		896,500 lbs.

Potato Inspection.

During the year steps were taken to improve the grade of table potatoes marketed by further enforcement of grade regulations. Regulations under The Vegetable Sales (Alberta) Act were applied to potatoes moving in provincial trade. Three inspectors were taken on strength at the Dominion Government Inspection Offices at Lethbridge, Brooks and Edmonton to cope with the additional inspections necessary. These men were paid by the Dominion Department, but in order to encourage growers and dealers to make full use of the service, the Field Crops Branch absorbed their travelling costs. Progress has been made toward an improved market quality.

REPORT OF LIVE STOCK COMMISSIONER

(A. A. CAMPBELL)

Ample supplies of home grown live stock feeds, including grain, forage and pasture, were available in most areas in the Province throughout the year. This condition reflected beneficially to the live stock industry. Long term contracts with Britain for meat supplies at remunerative prices have been very encouraging to cattle and sheep producers.

CATTLE

Operators in the cover crop areas had a second disastrous experience as feed supplies were blanketed by heavy snowfall in each of the fall months, necessitating the early sale or removal of cattle to feed lots for further finishing. However, the financial loss was not as great owing to the fact that prices paid per acre were about fifty per cent less than during the previous year.

The demand for all classes of good female breeding stock continues to exceed the supply being offered for sale.

Prices at private and association sales of pure-bred stock continued high for all offerings of good breeding and quality.

A few of the highlights of sales within the Province are worthy of note.

At the second annual sale of Shorthorns held at the Exhibition Grounds, Edmonton, on May 14th, by Claude Gallinger, 34 young Shorthorn bulls sold for a total of $52,500.00, averaging $1,544.00. The high price at this sale, namely $6,500.00, was paid by C. J. Broughton, Dayton, Washington, for "Killearn Monarch 101st," —278065—. A Snyder and Son, Didsbury, paid the second high, namely $4,100.00, for "Killearn Norseman 18th," —272583—, and $4,000.00 was paid by Melnyk and Stefura, Chipman, for "Killearn Norseman 40th," —278651—. The Broughton purchase broke all records for high price paid for any Shorthorn bull sold by auction in Alberta. Seventeen bulls were purchased by Alberta breeders, others going to breeders in Idaho, Indiana, Washington, Ontario, Manitoba, Saskatchewan, and British Columbia.

At the sale of "Pine Coulee" Herefords by J. M. Campbell and Son, at Stavely on October 28th, high prices were realized, 12 bulls and 36 females averaging $732.29.

A total of 953 bulls were sold at the 46th Annual Calgary Bull Sale, this being the largest number ever offered at this leading bull sale. The high price realized for each breed was as follows:

H. W. Herron, of Calgary, paid $4,000.00 for the Hereford bull "Caerleon Standard 26th," —172956—, bred by W. A. Crawford-Frost, Nanton.

H. A. Spiller, of Daysland, paid $1,525.00 for the Angus bull "G. Rosegay's Blackcap," —78042—, bred by the late R. R. Buchanan, Pincher Creek.

N. D. Latimer, of Bowden, paid $1,200.00 for the Shorthorn bull "Monarch's Beau U.A." —272200—, bred by the University of Alberta.

The Edmonton Spring Show and Sale, held on April 10th, again offered for sale a large number of well finished beef cattle. Much credit is due to the exhibitors on the high quality and finish of their exhibits shown at this prominent Fat Stock Show. The champion was a Hereford steer shown by Joe and Lawrence Kallal, Tofield, and was purchased by T. Eaton Company Western Limited at 55 cents per pound. The reserve champion, a Hereford steer, shown by Ed. F. Noad, Olds, was purchased at 31 cents per pound by Safeway Stores Limited. A group of five steers and a carlot of 15 steers weighing over 1,100 pounds, exhibited by Alex Mitchell, Lloydminster, were purchased at $19.00 and $18.60 per cwt. respectively by Katchen Brothers, Calgary.

June survey of the number of cattle on Alberta farms for the past five years is as follows:

Year	No. of Head
1942	1,469,950
1943	1,627,000
1944	1,742,000
1945	1,860,200
1946	1,768,100

The decrease in numbers from 1945 is 92,100 head, or 4.96 per cent.

The official reports of the Dominion Department of Agriculture show for Alberta the following cattle and calf marketings and total value for 1942 to 1946 (inclusive):

Year	No. Cattle	Value	No. Calves	Value
1942	281,278	$21,174,608.00	92,579	$2,505,188.00
1943	296,251	25,729,399.00	74,502	2,191,848.00
1944	384,257	32,715,600.00	87,888	2,319,400.00
1945	534,815	46,197,320.00	118,923	3,197,839.00
1946	494,137	47,664,500.00	100,513	2,880,700.00

The above figures show a comparison of cattle production and the annual revenue derived.

CATTLE AND CALF SHIPMENTS OUT OF THE PROVINCE

	1942	1943	1944	1945	1946
British Columbia	69,901	69,513	76,202	82,308	91,717
Saskatchewan	5,493	7,772	8,820	13,310	23,068
Manitoba	21,537	22,134	32,626	41,693	37,796
Ontario	12,797	13,999	25,324	18,411	16,330
Quebec	19,421	26,154	36,312	33,802	31,207
Nova Scotia			54	366	33
New Brunswick				151	279
U.S.A.	51,303	254	139	400	7
N.W.T.	40				
	180,492	136,226	179,477	190,441	200,437

Seasonal heavy marketings of cattle were made. An all time high record of daily, weekly, and monthly cattle receipts was shown at the Alberta Stock Yards, Calgary, in November. Reports indicate fewer cattle in feedlots for winter feeding.

AUCTION SALES OF PURE-BRED CATTLE

CALGARY BULL SALE:

	1944		1945		1946	
Breed	No. Sold	Av. Price	No. Sold	Av. Price	No. Sold	Av. Price
Shorthorn	203	$238.33	129	$367.52	178	$325.59
Angus	111	262.48	118	285.80	151	263.51
Hereford	529	412.90	552	513.96	624	442.74
Total all Breeds	843	$351.06	799	$456.63	953	$392.46

EDMONTON BULL SALE:

Breed	1944 No. Sold	1944 Av. Price	1945 No. Sold	1945 Av. Price	1946 No. Sold	1946 Av. Price
Shorthorn	106	$180.80	96	$225.26	77	$295.58
Angus	14	225.71	28	180.71	27	189.25
Hereford	21	269.76	28	292.14	55	311.73
Total all Breeds	141	$198.51	152	$229.38	159	$283.11

LACOMBE BULL SALE:

Breed	1944 No. Sold	1944 Av. Price	1945 No. Sold	1945 Av. Price	1946 No. Sold	1946 Av. Price
Shorthorn	49	$181.43	43	$235 00	66	$238.33
Angus	42	176.25	44	224.00	34	241.30
Hereford	99	181.67	61	277.00	113	214.86
Total all Breeds	190	$180.41	148	$249 04	213	$226.35

LLOYDMINSTER BULL SALE:

Breed	1944 No. Sold	1944 Av. Price	1945 No. Sold	1945 Av. Price	1946 No. Sold	1946 Av. Price
Shorthorn	35	$168.14	39	$209.00	44	$218.40
Angus	6	161.67			2	280 00
Hereford	19	301 32	32	394 00	58	323.62
Total all Breeds	60	$209.36	71	$292.38	104	$278.27

The large increase in numbers of bulls offered at the Spring Bull Sales appeared to lower the average sale price.

The Cattle Improvement Policy (Pure-bred Sires).

A tremendous increase in the number of applications has evidenced a ready acceptance of this policy whereby the Department of Agriculture defrays railway transportation charges on the movement of new sires to the applicant's nearest railroad station, and in addition contributes twenty-five per cent of the applicant's purchase price of a bull. Under these inducements bulls of higher quality and carrying more age are being requested than under former bull purchase assistance policies. Bulls were purchased from 391 cattle breeders to meet requirements.

Placement of bulls during the year comprised 954 under the policy, and in addition 25 bulls and 26 females were placed under the Live Stock Listing Bureau. The vast increase in this phase of work may be realized when it is taken into consideration that 152 applications were completed in 1944 and 316 in 1945. Frequent comments heard from cattle dealers indicate a marked improvement in the quality of cattle emanating from areas in which a reasonable distribution of bulls has been made under the Cattle Improvement Policy.

Dairy Heifer Calf Club Policy.

Members of seven Dairy Calf Clubs received a total of 126 grade Holstein heifer calves. Considerable competition has been encountered in purchasing calves. It is very gratifying to note that at least a few dairymen who are interested in the work of Calf Club members continue to supply calves.

Swine

Swine production in Alberta shows a 37% decrease as compared with the previous year. However, during the past two months there appeared a revived interest in the purchase of breeding stock. The new bacon agreement with Great Britain at higher prices will add a stimulus to the hog industry. Factors contributing to hog reduction were similar to those of last year, namely, too small a margin in relationship to grain and market hog prices, shortage of suitable feed

supplies in some areas, scarcity of suitable labour, and inequitable basis for bonus draw-back on feed grains.

Marketing statistics indicate that Alberta farmers sold for slaughter 1,250,602 hogs in 1946 as compared with 1,946,159 in 1945. There was a further decrease in carcass quality by 3.5% in "A" grades, and an increase in less desirable grades. The percentage comparison of grades is as follows:

1945:		1946:	
A	27.22	A	23 7
B	54.85	B	56.75
C	7.11	C	7.56
D	.35	D	.41
Light	.70	Light	69
Heavy	2.26	Heavy	2.80
Ex. Heavy	1.48	Ex. Heavy	1 97
Injured	.05	Injured	.05
Rgl.	.55	Rgl.	.57
Stags	.35	Stags	.39
Sows	5.10	Sows	5.10

It is considered that the lack of proper care in the growing stage of market hogs and a too narrow price spread between the top and the less desirable grades were the main contributing factors in the general lowering of carcass quality.

A slight increase in hog prices was announced early last spring, but the reduction in the Dominion Government bonus by $1.00 per head on "A" and "B_1" grades practically nullified the effect of price as an incentive to increase hog production. The new price established was $18.25 for grade "A" and $17.85 for "$B_1$". These prices do not include the Dominion Government premium of $2.00 per head on "A" grade and $1.00 on "$B_1$'s". There was considerable upward price fluctuation during the summer, the top of $20.70 per cwt. for long haul grade "A" hogs being reached early in October. Prices broke and reverted to basic levels just before the Annual Fall Swine Sales. This naturally created an adverse effect on those who planned expansion in swine production.

Swine production in Alberta is an integral part of permanent agriculture, especially in the black and the gray wooded soil zones. At present the lack of protein supplements for the balancing of hog feed is one of the limiting factors. However, when better balance or ration of sows to milk cows is reached, i.e. skim milk supply, and when the growing of field peas for feeding purposes in adaptable areas becomes a part of the regular cropping practises, it may be expected that swine production and quality will improve.

The following table depicts Alberta hog production from 1941 to 1946 (inclusive):

ALBERTA SWINE MARKETINGS, 1941 TO 1946 INCLUSIVE, BY GRADE AND PERCENT WITHIN EACH GRADE

	"A"	"B"	"C"	"D"	Light	Heavy	Extra Heavy	"E"	Sows	Total No.	Total Sales Value
1941—Number	593,257	1,080,763	147,317	6,886	19,857	30,211	7,854	18,162	42,746	1,947,053	$36,964,988.00
%	30.47	55.51	7.57	0.35	1.02	1.55	0.40	0.94	2.19	100.00	
1942—Number	563,218	1,251,500	160,249	4,986	2,233	78,196	16,584	21,545	83,815	2,182,326	49,517,340.00
%	32.05	51.69	3.36	0.31	0.89	4.41	1.91	1.62	3.76	100.00	
1943—Number	571,107	1,294,375	165,881	4,769	5,124	148,378	43,137	22,779	136,834	2,392,384	60,766,553.00
%	28.25	45.39	3.77	0.59	0.98	6.67	5.03	1.45	7.87	100.00	
1944—Number	724,587	1,640,109	277,865	11,356	17,461	78,400	37,552	24,282	170,328	2,981,940	78,722,000.00
%	24.30	55.00	9.32	0.38	0.59	2.63	1.26	0.81	5.71	100.00	
1945—Number	529,663	1,067,375	138,365	6,836	13,670	43,938	28,714	18,158	99,395	1,946,114	52,895,379.00
%	27.20	54.80	7.10	0.35	0.70	2.25	1.47	0.94	5.10	100.00	
1946—Number	294,873	710,631	93,736	4,832	8,487	36,541	25,328	12,305	63,868	1,250,602	35,667,200.00
%	23.58	56 82	7.50	0.39	0.68	2.92	2.02	0.98	5.11	100.00	

The progeny testing of swine under the Advanced Registry operated by the Dominion Production Service continues to be popular amongst the pure-bred swine breeders. In the majority of cases farmers who apply for pure-bred sires under the Swine Improvement Policy indicate their preference for a boar from Advanced Registry stock. Now that the Canadian hog producers are in direct competition with Danish farmers for the British bacon trade, Advanced Registry work must receive more attention and support from all concerned. The Alberta Department of Agriculture co-operates in this work by paying transportation charges on litters shipped by breeders to the Edmonton Advanced Registry Testing Station. In the calendar year 1946 there was a total of 92 litters tested.

The Danish Bacon Agreement with Great Britain caused a temporary unrest amongst Alberta farmers. However, when all facts became known, it was apparent that the contract did not jeopardize the place of Canadian bacon on the British market. It is necessary, however, that steps be taken to bring about an improvement in the quality of bacon. The Danish Bacon Agreement calls for export to Great Britain of 90,000,000 pounds of bacon at a price comparable to that received for top quality Canadian bacon.

Import of Pork Products into Canada.

Live stock market reports indicate that in the first ten months of this year, Canada imported from the U.S.A. 1,586 pounds of bacon and ham, 696,730 pounds of pork, and 5,378,985 pounds of lard.

Swine Sales.

The demand throughout the year and at the pure-bred sales for boars and gilts proved very profitable to the breeders of quality stock. It is an established fact that breeders of commercial swine herds prefer to pay top prices for high quality boars rather than accept mediocre animals at bargain prices. The average price on 53 bred gilts sold at the last Edmonton Spring Sale was $76.60, as compared to the average of $81.31 in 1945 on 40 gilts. The high sale price was $155.00 as compared with $225.00 in 1945. The high sale price for a boar at the Edmonton Sale was $200.00. It is reported that $625.00 was paid at the Calgary Sale for a Grand Champion boar. The following tables synopsize the Calgary and Edmonton Swine Sales for the years 1944 to 1946:

EDMONTON FALL SWINE SALE

Breed	1944 No. Sold	1944 Av. Price	1945 No. Sold	1945 Av. Price	1946 No. Sold	1946 Av. Price
Yorkshire Sows	63	$ 39.92	97	$ 54.20	125	$ 56.64
Tamworth Sows	7	27.85			5	44.50
Yorkshire Boars	56	34.24	83	47.50	118	60.78
Tamworth Boars			8	40.62	3	80.00
	126	$ 34.00	188	$ 40.70	251	$ 58.62

CALGARY FALL SWINE SALE

Yorkshire Sows	103	$ 44.56	114	$ 44.00	89	$ 58.67
Tamworth Sows	11	50.68	35	38.37	20	67.87
Berkshire Sows			2	33.00		
Yorkshire Boars	85	44.88	94	47.44	96	65.88
Tamworth Boars	24	32.06	29	51.28	19	50.92
Berkshire Boars	3	42.50	6	40.83		
	226	$ 42.94	280	$ 45.06	224	$ 62.38

Average prices for all sows and boars sold at Fall Sales:

Year	SOWS		BOARS		TOTAL	
	No. Head	Av. Price	No. Head	Av. Price	No. Head	Av. Price
1941	177	$ 34.45	217	$ 37.52	394	$ 36.90
1942	218	43.35	239	42.73	457	43.03
1943	271	43.33	283	45.94	354	44.67
1944	184	40.75	168	38.42	352	38.47
1945	248	47.14	220	42.99	463	45.65
1946	239	58.08	236	62.73	475	60.39

The Swine Improvement Policy.

The Swine Improvement Policy is now firmly established and favourably recognized by both the commercial and the pure-bred swine breeders. It is regrettable that the supply of boars from Advanced Registry stock is insufficient to meet the demand of applicants who specify their preference for Advanced Registry sires. Under the policy, commercial hog producers are entitled to payment by this Department of transportation charges to their nearest shipping point on one pure-bred boar every two years.

The Live Stock Listing Bureau provides for the placement of pure-bred gilts and boars to those who do not qualify under the Swine Improvement Policy.

The following table shows placement of boars and gilts under these policies for the period 1941 to 1946:

Year	Live Stock Listing Bureau		Policy	Total
	Gilts	Boars	Boars	Boars
1941			207	207
1942	24	10	251	261
1943	31	50	362	412
1944	9	15	180	195
1945	26	15	187	202
1946	36	17	200	217

Dominion-Provincial Brood Sow Policy.

This policy is operated jointly by the Dominion and Provincial Departments of Agriculture which share equally in the prepayment of shipping charges. The Dominion Department of Agriculture supplies a boar with each group of 20 gilts. There were 25 Swine Improvement Groups formed, requiring a total of 600 gilts.

Bacon Shows.

During the past several winters the Dominion and Provincial Departments of Agriculture co-operated in conducting Bacon Shows. From eight to ten Wiltshire sides are shipped to a pre-determined point of origin and used for demonstration purposes by a Dominion grader. A Provincial representative leads the discussion on swine feeding, balanced rations, and swine management. These Bacon Shows have proven very popular and practical. The following table shows the number of meetings held, total attendance, and average attendance:

Year	Meetings No.	Attendance Total	Attendance Average
1944-45	27	3,030	111
1945-46	6	520	86

Swine Field Days.

In 1946, the Department arranged for Swine Field Days where groups of pigs, consisting of market hogs, breeding gilts, mature sows and sires, were used for demonstration and judging classes. Thirty dollars in cash prizes was provided for each field day. This was made possible through the courtesy of the T. Eaton Company

Western Limited. The table indicates the extent of Swine Field Day activities:

Year	No. Meetings	Total Attendance	Average Attendance
1945	10	743	74
1946	9	452	50

Much time was spent in attending meetings and investigations on farms, in discussing swine management, and culling swine herds of commercial and pure-bred breeders. Swine posters, charts and plans for self-feeders, buildings, and other swine equipment required considerable time.

SHEEP

Marketing trends and sheep population figures show a gradual reduction in the size and number of breeding flocks. The June 1946 survey estimates Alberta's sheep population at 896,400 as compared with 974,900 in June, 1945.

The mutton and market lamb prices remained at last year's level. Good handyweight lambs ranged from $11.00 to $15.00 per cwt. Good handyweight sheep sold at $5.00 to $12.25 per cwt.

Feeder lambs were in keen demand at higher prices. The majority of lambs in the range country were contracted by the Feeders' Associations, at a price of $10.00 per cwt. It is estimated that there are over 100,000 lambs on feed. This number includes about 30,000 feeder lambs brought in from Saskatchewan.

Embargo against export of sheep and lambs for slaughter in the U.S.A. remained in force during the entire year of 1946. However, large quantities of mutton and lamb were purchased by the Meat Board for export to the United Kingdom. Reports for January 1st to December 1st show that 4,574,000 pounds of lamb and 4,175,000 pounds of mutton were purchased in Canada and cleared for shipment. It is naturally concluded that a large portion of this lamb and mutton originated in Alberta.

Sheep breeders enjoyed a good year in export trade. Buyers from U.S.A. points continued to patronize Alberta Pure-bred Sheep Sales, also purchasing rams at the farms of individual sheep breeders. The table hereunder covers pure-bred sheep (males and females) exported to the U.S.A. in the past two years:

Year	No. Head
1945	1,061
1946	1,124

A special auction sale of high class sheep (stud rams and ewes) was held at Calgary on July 10th. Only Suffolk and Hampshire ewes and rams were entered. Consignments were made by Saskatchewan, British Columbia, and Alberta breeders. The following table shows total sold, average, and top prices at this sale:

Year of Birth	Breed	RAMS No.	RAMS Av. Price	RAMS Top Price	EWES No.	EWES Av. Price	EWES Top Price
1945	Suffolk	9	$87.25	$170.00	16	$56.25	$95.00
1946	Suffolk	7	99.36	125.00	7	50.00	77.50
1945	Hampshire	7	57.85	120.00	4	46.25	80.00
1946	Hampshire	3	58.33	100.00	2	35.00	45.00

Calgary and Edmonton Sheep Sales.

The pure-bred sheep breeders experienced a wide variation in sale prices. The Calgary Sale was satisfactory in all its phases. The average for ewes, all breeds, was $26.07 per head, as compared with $21.91 in 1945. The rams averaged $42.06 as compared with $34.61

in 1945. The high Suffolk ram sale price was $290.00, and the high Hampshire was $200.00. In a large measure the success of this sale may be attributed to the activity of American buyers. The Edmonton Sheep Sale was disappointing, as there were too many entries for the number of buyers. Ewes, all breeds, averaged $15.47, rams $29.76. High Suffolk ram was $67.50, with the high Hampshire ram $125.00.

AUCTION SALES OF PURE-BRED SHEEP

EDMONTON:

Breed	1944 No. Sold	1944 Av. Price	1945 No. Sold	1945 Av. Price	1946 No. Sold	1946 Av. Price
Suffolk Ewes	12	$ 27.00	63	$ 16.98	53	$ 19.23
Oxford Ewes	17	11.88	8	11.87	11	12.91
Shropshire Ewes	16	11.13	11	10.25		
Southdown Ewes			3	12.00	2	21.25
Hampshire Ewes	9	16.82	31	14.09	13	22.88
Total	75	$ 14.49	116	$ 14.82	79	$ 19.88
Grade Ewes	5	$ 10.00	25	$ 7.40	50	$ 7.30
Suffolk Rams	111	25.18	108	29.03	93	30.30
Oxford Rams	26	19.52	15	21.30	6	30.42
Shropshire Rams	16	23.28	15	18.10	2	15 00
Southdown Rams	4	25.00	7	29.07	2	18.50
Hampshire Rams	85	24.71	90	23.12	35	29.57
Cheviot Rams					1	32.50
Total	242	$ 23.53	235	$ 25.57	139	$ 22.57
CALGARY:						
Suffolk Ewes	166	$ 19.25	163	$ 31.04	92	$ 34.80
Shropshire Ewes	3	12.00				
Southdown Ewes	33	14.52	11	14.66	10	30.40
Hampshire Ewes	130	14.10	181	14.15	128	19.38
Total	362	$ 14.96	355	$ 21.91	230	$ 26.07
Suffolk Rams	168	$ 47.46	200	$ 43.07	109	$ 60.10
Shropshire Rams	7	19.43				
Southdown Rams	31	17.92	27	23.11	12	16.79
Hampshire Rams	195	38.76	206	27.80	158	35.28
Rambouillet Rams	6	52.50	10	24.60	3	20.00
Cheviot Rams			5	51.00	5	30.00
Cotswold	2	15.50				
Corriedale Rams	1	21.00	9	34.11	5	31 40
Lincoln	9	20.88				
Total	419	$ 29.16	457	$ 34.61	302	$ 42.06

Trends as to numbers and value of commercial sheep marketings are outlined below:

Year	Stock Yards	Plants	Direct on Export	Total	Value
1937	62,324	157,189	46	219,559	$1,185,619.00
1938	48,451	151,029	125	199,605	1,097,828.00
1939	68,653	154,801	337	223,791	1,353,936.00
1940	61,977	130,672	32	192,681	1,319,865.00
1941	74,290	138,738	804	213,032	1,657,198.00
1942	42,573	162,899	1,563	207,035	1,830,189.00
1943	57,386	152,626	642	210,654	1,805,304.00
1944	72,239	205,739	25,146	303,124	2,515,900.00
1945	75,556	196,836	56,562	328,954	2,921,112.00
1946	83,515	214,574	1,475	299,564	2,917,800.00

ALBERTA SHEEP MARKETINGS AND CLASSIFICATIONS

	LAMBS					SHEEP						
	Good Handy Weight	Good Heavy	Common all Weight	Bucks	Total	Good Handy Weight	Good Heavy	Common	Unclassified	Direct on Export	Total	Grand Total Sheep and Lambs
1939—Number	168,935	6,615	23,013	1,025	199,828	1,828	12,539	4,284	5,215	337	24,203	223,791
%	84.7	3.3	11.5	.5		7.6	51.8	17.7	21.6	1.3		
1940—Number	144,108	4,698	19,842	1,200	169,848	2,461	12,176	3,444	4,720	32	22,833	192,681
%	85.0	2.7	11.6	.7		10.7	53.1	15.6	20.5	.1		
1941—Number	151,953	4,500	29,679	1,367	187,500	3,339	14,554	4,575	3,061	804	26,333	213,833
%	81.1	2.4	15.8	.7		12.7	55.3	17.4	11.6	3.0		
1942—Number	159,838	5,680	24,395	1,369	191,282	1,987	5,763	3,217	3,232	1,563	15,753	207,035
%	83.6	2.9	12.8	.7		12.6	36.5	20.5	20.5	9.9		
1943—Number	154,088	6,505	22,033	1,536	184,162	3,622	15,273	4,832	2,123	642	26,492	210,654
%	83.7	3.5	12.0	.8		13.7	57.5	18.4	8.0	2.4		
1944—Number	193,452	6,495	45,232	1,543	246,722	12,737	7,212	6,780	4,527	25,146	56,402	303,124
%	78.5	2.6	18.3	.6		22.6	12.8	12.0	8.0	44.6		
1945—Number	188,162	3,651	39,076	2,380	233,269	10,466	15,132	10,029	3,496	56,562	95,685	328,954
%	80.6	1.6	16.8	1.0		10.9	15.8	10.5	3.7	59.1		
1946—Number	209,420	10,500	25,255	2,777	247,952	19,477	18,392	9,432	2,836	1,475	51,612	299,564
%	84.5	4.2	10.2	1.1		37.7	35.6	18.3	5.5	2.9		

Sheep Shearing Schools.

In the past several years successful two-day sheep shearing and wool conditioning schools were held under the guidance of the Dominion Production Service. This Department co-operated with the Dominion officials in conducting the schools, which were held in Edmonton, Brooks, Cardston, and Lethbridge. Attendance was very good at all points.

Sheep Improvement Policy.

This policy provides for payment of transportation charges on rams to the applicant's nearest shipping point. No applicant may apply for more than two rams in any one year, and no applicant may secure a ram or rams under this policy in any two consecutive years. The Department also operates a Listing Bureau applicable to farmers who are not eligible for rams under the Sheep Improvement Policy, or who require ewes.

The following table shows numbers of rams and ewes placed for the years 1941 to 1946 inclusive:

Year	Live Stock Listing Bureau			
	Ewes	Rams	Policy Rams	Tot. Rams
1941			69	69
1942	11	14	81	95
1943	4	9	26	35
1944	11	3	31	34
1945	4		25	25
1946	5	2	45	47

Horses

Spring auction sales of horses were held at the following points: Brooks, Calgary, Edmonton, Lacombe, Lethbridge, Red Deer, and Stettler. A total of 3,470 horses were sold, realizing $214,040.00—an average of $61.68 per head. At sales held at the same places in the previous year, 4,153 horses averaged $62.00 per head.

The remodelled plant of the Horse Co-operative Marketing Association Limited in Edmonton is now operating to capacity in the slaughtering of horses for meat purposes. Large quantities of this meat are exported to European countries for human consumption. Supplies are also available locally for the fur-bearing animal industry. An average of over 1,000 horses per month were slaughtered, and towards the latter part of the year daily slaughterings exceeded 100 head.

Horse population numbers as at June, 1946, were estimated at 501,000, being a decrease of 63,200 head, or 16.5% from the previous year.

Export of horses for the period 1942-46 is as follows:

	1942	1943	1944	1945	1946
British Columbia	1,365	2,295	1,377	1,023	1,029
Saskatchewan	255	443	511	131	2,692
Manitoba	279	1,624	790	502	776
Ontario	645	1,409	1,416	1,132	3,033
Quebec	5,739	6,412	7,667	4,523	12,433
Nova Scotia	769	1,187	1,607	1,225	1,909
New Brunswick	693	718	550	564	500
Prince Edward Island					58
U.S.A.	242	6,686	9,859	6,733	6,308
Newfoundland		80	123	113	7
Netherlands				35	
	9,987	20,845	23,900	15,981	28,745

The horse population is rapidly decreasing due to the large number being exported as aforementioned, and the general lack of interest in the breeding of horses.

Royal Winter Fair, Toronto

This fair staged a wonderful come-back after a lapse of eight years. In the opinion of many individuals who have attended the "Royal" since its inception, the 1946 "Royal" was considered the best in the history of the organization.

Large numbers of entries of high quality live stock were evidenced in many classes. Seven carloads of live stock, comprising approximately 19 horses, 32 cattle, 40 sheep, and 10 swine, totalling 101 head, were exhibited at the "Royal" by Alberta stockmen.

The Dominion Government undertook to pay seventy-five per cent of eastbound freight charges on the live stock exhibits. The Government of Alberta paid the twenty-five per cent balance of eastbound freight charges, all local transportation charges to and from assembly point, decking and partitioning costs, and feed charges. The Canadian Pacific Railway Company returned exhibits free to points of assembly.

Co-operation given by members of breed associations to officials of the Alberta Live Stock Board greatly facilitated selection and movement of exhibits.

Only 11 head of beef cattle were shown. Therefore, it is hoped that beef cattle breeders will take a greater interest in exhibiting their live stock at succeeding Royal Fairs.

Comparatively short notice was available to Alberta exhibitors in some instances; however, most gratifying results were obtained.

Awards received on exhibits are as follows:

	Horses	Cattle	Sheep	Swine
Championships			3	
Reserve Championships			4	
Reserve Senior Championships	1	1		
Junior Championships	1			
Reserve Junior Championships	1			
First Prize	5	4	13	
Second Prize	4	5	7	
Third Prize	2	3	6	
Fourth Prize	3	3	2	2
Other Prizes	3	9	7	2

Live Stock Feeders' Associations

During the feeding season 1945-46, 14 feeders' associations operated under The Feeder Associations Guarantee Act. There was a considerable increase in the number of cattle, sheep, and lambs fed by members, and in the total amount of loans, as compared with the previous year's operations of feeders' associations. Satisfactory "margins" and substantial profits were again realized by cattle and lamb feeders.

The present financial status of many members no longer necessitates loans for the purchase of feeder live stock. This is largely attributable to benefits derived under this policy in preceding years, when many feeders were developed to the extent that loans are not required, or their requirements now exceed the maximum loan of $4,000.00 at any one period per annum. Information on file indicates that members of feeders' associations who utilized $3,000.00 per year in purchasing feeder live stock seven or eight years ago, have now established a source of credit ranging from $20,000.00 to $40,000.00 to purchase feeder live stock.

VOLUME OF OPERATIONS OF ALBERTA FEEDERS' ASSOCIATIONS DURING THE FEEDING SEASON 1945-1946

Association and Address	Cost of Animals	Cattle	Sheep	Total Membership	Members Feeding
Battle River Live Stock Feeders' Association, Camrose	$ 21,055.39	319		15	11
Bow Valley Live Stock Feeders' Association, Brooks	197,931.12	666	10,095	122	48
Cardston Live Stock Feeders' Association, Cardston	109,110.85	1,004	7,331	41	38
Carstairs Live Stock Feeders' Association, Carstairs	9,158.90	148		27	5
Central Alberta Live Stock Feeders' Ass'n, Lacombe	44,248.90	570	1,442	69	17
Lethbridge Live Stock Feeders' Association, Lethbridge	142,030.16	1,476	7,869	53	28
Olds Live Stock Feeders' Association, Olds	37,412.62	598		46	12
Raymond-Magrath Live Stock Feeders' Ass'n, Magrath	90,149.46	503	10,489	48	22
Red Label Feeders' Association, Raymond	78,564.68	910	4,927	53	17
South Slope Live Stock Feeders' Association, Brooks	98,599.64	561	2,588	58	29
Taber Live Stock Feeders' Association, Taber	56,950.06	463	4,271	32	13
U.I.D. Stock Feeders' Association, Glenwood	60,083.02	205	7,115	69	19
Vauxhall-Albion Ridge Live Stock Feeders' Ass'n, Vauxhall	66,324.15	710	4,718	95	20
Vermilion & District Live Stock Feeders' Ass'n, Vermilion	60,596.94	1,040		161	27
Wainwright, Edgerton & Chauvin Live Stock Feeders' Association, Edgerton	26,075.88	383		14	13
	$1,098,291.77	9,556	60,845	903	319

The Stock Inspection Act and the Brand Act

The heavy movement of cattle through various marketing channels continued throughout the year. This resulted in an enormous amount of work for all members of those engaged on the stock inspection staff.

Much work was entailed in the preparation of material pertaining to the publication of a brand book.

During the year there were 2,005 new brands recorded, consisting of 1,713 cattle, 281 horse, 2 sheep, 4 poultry and 5 fox brands; 258 transfers were registered; cancellations, 125; renewals, 3,309 (2,349 cattle, 956 horse, 2 fox, and 2 poultry); strays, searches and certified extracts numbered 310; butchers' and hide dealers' licenses issued, 568; making a total of 6,575 transactions.

The approximate number of brands now in good standing are as follows:

Cattle	22,482
Horse	9,302
Poultry	37
Sheep	37
Fox	72
	31,930

The Domestic Animals (Unorganized Territory) Act

In the administration of this Act work continues unabated by members of the staff pertaining to the establishing and maintaining of pound districts and the making of arrangements for the disposal of estray animals.

Restricted Area Plan

The continued scarcity of veterinarians available for testing cattle for tuberculosis in restricted areas has again delayed progress in this work.

Testing was completed in seven townships in the Enlarged Municipal District of Camrose No. 63, and retesting of cattle in parts of the same municipality is under way.

The Pure-bred Sire Area Act

The Municipal District of Nelson No. 105 was constituted a pure-bred sire area on October 5th, 1946, whereby the maintaining and use of other than a pure-bred bull is now prohibited in the area.

An increased interest in the establishing of pure-bred sire areas is being evidenced by the number of petition forms being requested.

REPORT OF THE SUPERVISOR OF LIVE STOCK BREEDING ASSOCIATIONS

(W.H. T. Mead)

Artificial insemination work carried on from the live stock breeding laboratory at Olds, during 1946, was a continuation of the same programme carried out in 1944 and 1945. However, the results of the 1944-45 work were beginning to show something more tangible than had been in evidence before. This was only natural because the people who were participating in this programme had no experience prior to 1944, and during the third year of operation were beginning to be able to place a value on the work to themselves as cattle breeders, the important factors being the breeding results obtained, the cost, and the quality of calves produced by the superior sires in service. It was not until the end of 1946 that the first heifers produced by artificial breeding had come into production, and a large part of the future possibilities for expansion will depend on the performance of these heifers.

The Olds Breeding Club, through which service is supplied to grade herd owners in that area, has from its inception in 1944, had difficulty in financing its operations because of insufficient cows. The regulations governing clubs were altered to some extent in January, 1946, with the object of either closing out this club or increasing the cow numbers to a point where the club operations could be financed without raising the existing service fee. This resulted in a local effort that did obtain new members to the point where the minimum objective of 1,200 cows bred was reached.

An outline of each year's work to date is shown as follows:

	1944 (11 months)	1945	1946
No. of active members	120	150	200
No. of cows bred	911	975	1,212

The experience gained by carrying on this work in the Olds Club has accentuated the difficulty of getting farmer members to appreciate the highly technical process necessary to achieve good results, also that of making the member appreciate the necessity of his complete co-operation with the technicians as well as with the fellow members of his club.

The service to grade cattle owners can only be extended as fast as the average farmer can gain experience and background in artificial breeding work, and as fast as he can be made to appreciate the real value of service from exceptionally good sires.

Service to breeders of registered Holstein-Friesian cattle was continued from the bulls "Hays Thirty-Nine Steps" and "Glenafton Rag Apple Architect". The popularity of this service over the three-year period is shown in the following table:

	1944	1945	1946
No. of breeders participating	16	43	58
No. of cows bred	108	247	317

Two highlights from this service that may be worthy of mention are, first, that a six-month-old daughter of "Hays Thirty-Nine Steps" from the world's champion cow "Alcartra Gerben," was sold by an Alberta breeder to the British Friesian Association for $10,000.00. A daughter of "Architect" placed sixth in a strong junior yearling class at the Toronto Royal Winter Fair. This heifer was from a good plus cow in an average pure-bred herd.

One desirable feature of this programme has been that practically all bull calves from these two bulls have stayed in the Province by being sold into good commercial dairy herds. A few have gone into registered herds as future herd sires.

Breeding results have been fairly constant over the three years of operation, both in the Olds Club and with the pure-bred breeders. A detailed analysis of work done to the end of 1945 showed a conception rate of 2.2 services per calf produced. This rate compares quite favourably with work done in other areas, but is not considered sufficiently high by the average commercial producer. The more specialized breeders believe that this rate compares favourably with the results achieved by natural breeding.

A high conception rate is vital to the success of artificial breeding. Nothing must be left undone to try to improve on the present rate, but breeders must be made to realize the value of the proper efforts on their part if greater success is to be attained.

Because of the long term aspect of any cattle breeding programme it is yet difficult to tell what the future may hold for artificial breeding in Alberta. The condition of sparse population found in this Province is not conducive to the satisfactory application of artificial insemination. The value of the service can only be indicated by the breeders themselves, and because of the necessity of mass participation in any given area, must be attractive to the average producer. It is doubtful if three years' operation is sufficient to put any producer in a position to know whether or not the programme has been successful from his point of view. The reaction of those producers participating will eventually determine the value of this work so far as Alberta is concerned.

REPORT OF THE DAIRY COMMISSIONER

(D. H. McCALLUM)

GENERAL REVIEW

During 1946, total milk production in Alberta amounted to 1,657,673,000 lbs., a reduction of 73,733,000 lbs. or 4.3% from 1945. This production was practically equal to the pre-war figure for 1939, which amounted to 1,672,457,000 lbs. While pasture and feed conditions were more favourable than during the previous year, production in the northern section was again retarded by poorer than average spring pastures. A reduction of 6% in the number of cows kept for milk purposes was the main reason for decreased production. More attractive prices for other farm products and the difficulty of securing labour for dairy chores were principal factors responsible for fewer cows being milked.

A slight change in the utilization of milk occurred. The quantity consumed in the fresh fluid form was 23,623,000 lbs. greater than the previous year. Slight increases were recorded in the quantities fed to farm animals and manufactured into dairy butter. The non-delivery strike during the period September 7th to October 6th greatly reduced deliveries to dairy factories thereby diverting milk to these less profitable channels. All factory dairy products showed decreases during the year.

The total value of dairy products amounted to $36,698,000, a record which exceeded the previous one established in 1944 by over $1,200,000. Higher prices for butter and fluid milk were largely responsible.

Subsidies to milk and cream producers were paid for at least part of the year by the Federal Government. These subsidies amounted to $3,273,242, and are not included in the total value figures, just listed.

The following table sets forth the subsidy period, the rate of subsidy, and the estimated total payment to producers supplying various markets.

Market	Subsidy Period	Rate of Subsidy	Amt. Paid
Milk for Fluid Sales	Jan. 1-April 30	25c or 55c per 100 lbs.*	
Milk for Fluid Sales	May 1-Sept. 30	35c or 55c per 100 lbs.*	$ 589,268
Butterfat for Creamery Butter	Jan. 1-Dec. 31	10c per lb.	2,522,600
Milk for Cheddar Cheese	Jan. 1-April 30	20c per 100 lbs.	
Milk for Cheddar Cheese	May 1-Dec. 31	30c per 100 lbs.	104,029
Milk for Concentrating Purposes	Jan. 1-April 30	30c per 100 lbs.	
Milk for Concentrating Purposes	May 1-Sept. 30	23c per 100 lbs.	57,345
		Total amount of subsidy	$3,273,242

*As recommended by the Board of Public Utility Commissioners.

PRELIMINARY

PRODUCTION AND VALUES OF DAIRY PRODUCTS, 1946

Product	Quantity	Milk Equivalent lbs.	% of Tot. Milk	Average Unit Price	Tot. Value
Creamery Butter (lbs.)	30,764,000	720,801,000	43.5	$ .3685	$11,337,000
Farm Dairy Butter (lbs.)	9,175,000	214,970,000	13.0	.382	3,505,000
Cheddar Cheese (lbs.)	3,229,000	35,971,000	2.2	.225	727,000
Net increase in processing					182,000
Farm Dairy Cheese (lbs.)	223,000	2,484,000	.1	.205	46,000
Ice Cream* (gals.)	997,000	14,247,000	.9	1.19	1,186,000
Misc. Factory Products		28,912,000	1.7		1,165,000
Milk and Cream, fluid sales		281,806,000	17.0	3.19	8,991,000
Milk and Cream, farm home consumed		204,848,000	12.3	1.94	3,974,000
Milk Fed Farm Animals		153,634,000	9.3	1.94	2,980,000
Skimmilk and Buttermilk (lbs.)	883,690,000			.29	2,563,000
Whey (lbs.)	29,067,000			.145	42,000
Totals		1,657,673,000	100.0		$36,698,000

*Mix converted to Ice Cream on basis of 100% overrun.

PRODUCTION AND VALUES OF DAIRY PRODUCTS, 1945

Product	Quantity	Milk Equivalent lbs.	% of Tot. Milk	Average Unit Price	Tot. Value
Creamery Butter (lbs.)	34,692,917	812,161,000	46.9	$ .3283	$11,389,875
Farm Dairy Butter (lbs.)	8,978,000	210,175,000	12.1	.3460	3,106,388
Cheddar Cheese (lbs.)	3,985,160	44,634,000	2.6	.2267	903,309
Farm Dairy Cheese (lbs.)	224,657	2,516,000	.1	.2067	46,437
Ice Cream* (gals.)	1,072,283	16,845,500	1 0	1.1977	1,284,273
Misc. Factory Products		30,111,500	1.8		1,162,433
Milk and Cream, fluid sales		260,555,000	15.0	2 9978	7,810,918
Milk and Cream, farm home consumed		202,476,000	11.7	1.77	3,583,825
Milk Fed Farm Animals		151,932,000	8.8	1.7700	2,689,196
Skimmilk and Buttermilk (lbs.)	967,278,000			.2700	2,611,651
Totals		1,731,406,000	100.0		$34,588,305

*Mix converted to icre cream on basis of 100% overrun.

ESTIMATED FARM VALUE OF DAIRY PRODUCTS SOLD, 1946

	Quantity, lbs.	Price	Value
Butterfat for Creamery Butter	25,226,000	$ .457 per lb.	$11,529,000
Butterfat for Ice Cream	432,000	.507 per lb.	219,000
Farm Dairy Butter Sold	329,000	.382 per lb	508.000
Milk for Cheesemaking and Concentrating	64,883,000	1.956 per 100 lbs.	1,269,000
Milk and Cream Sold for Fluid Consumption	281,806,000	2.61 per 100 lbs.	7,345,000
Milk for Ice Cream	1,827,000	2 13 per 100 lbs.	39,000
Total			$20,909,000

Above prices are at farm, subsidies included.

Above prices are at farm, subsidies included.

Dairy Cattle

There were 253,700 cows and heifers over two years of age kept for milk purposes on Alberta farms according to the June estimate of the Dominion Bureau of Statistics. This represents a decrease of 22,700 head or 6.0% below the same date for 1945. The shortage of farm labour and the greater interest in grain growing were factors contributing to the decrease in dairy cattle population.

The following tabulation shows the average milk and butterfat production for Alberta milk cows, based upon the total quantity of milk produced and the total cows kept for milk purposes during 1946. The butterfat was calculated on the basis of an estimated test of 3.6%. Previous years are included for comparison:

	1946	1945	1944	1943
Average milk production, lbs.	4,687	4,600	4,686	4,759
Average butterfat production, lbs.	168.7	165.6	168.0	171.3

Creameries

During the year, 92 creameries were in operation. The Southern Alberta Dairy Pool Limited, Calgary, established a new branch creamery at Brooks, which commenced operations on September 17, 1946.

Eleven creameries changed ownership during the year. The Northern Alberta Dairy Pool Limited took over operations of the Valhalla Co-operative Creamery at Valhalla, on January 1st, 1946.

High River Creamery, formerly operated by W. Willmore, was leased on January 1st to Messrs. Bradbury and Kern.

Okotoks Creamery, formerly owned by N. Dorsey, was purchased January 1st by Messrs. E. W. and M. Dawson.

National Food Products Limited, Bassano, was purchased on April 1st by Messrs. R. Schaffer and F. Rathje, and is now operating under the name of the Bassano Creamery.

Rimbey Creamery, formerly operated by O. Lundberg, was purchased on June 17 by the Central Alberta Dairy Pool.

Palm Dairies Limited purchased, on April 1st, the Woodland Dairy Limited, Edmonton, with branches at Tofield, New Sarepta and Calmar, and at that time changed the operating name to Wodland Dairy Company Limited.

On April 1st the operating name of the Edmonton City Dairy Limited, Edmonton, was changed to Edmonton City Dairy Company, Edmonton.

Independent Creameries Limited, Markerville, was purchased on September 30th by C. Morkeberg, and is now operating under the name of Markerville Creamery.

The ownership of the Lac La Biche Creamery changed December 2nd from J. McHardy to Messrs. L. J. Badry and A. A. Blaeser.

The average output per plant amounted to 334,390 lbs., a decrease of 46,851 lbs. from 1945.

Cheese Factories

There were eighteen cheese factories in operation during 1946. The Southern Alberta Dairy Pool Limited, Calgary, operated the Rosemary Co-operative Dairies Association Limited cheese factory at Rosemary from March 1st. The branch cheese factories of Wodland Dairy Limited at Glen Park and Ryley were taken over April 1st by the Palm Dairies Ltd.

The average output of cheese per factory was 179,370 lbs., a decrease of 42,028 lbs. from 1945.

Cheese factories again supplied large quantities of milk to the fluid milk distributors in the cities of Edmonton, Calgary and Lethbridge. Had these transfers not taken place, the cheese output for the Province would have been approximately 700,000 lbs. greater.

Cream Quality

The following table indicates the quantity and quality of cream delivered to Alberta creameries during the year with corresponding figures for previous years included for sake of comparison:

CREAM SUPPLY TO CREAMERIES—QUANTITY AND GRADES OF BUTTERFAT

	1946 Pounds	%	1945 Pounds	%	1944 Pounds	%	1939 Pounds	%
Cream Received	74,363,898		83,137,769		90,955,231		73,530,777	
Average Test		(35.1)		$35.3)		(35.4)		(34.4)
Butterfat:								
Table Grade	186,663	(1.7)	287,412	(1.0)	340,840	(1.1)	727,445	(2.9)
Special Grade	13,737,178	(52.5)	15,865,791	(54.2)	16,579,038	(51.6)	17,234,846	(68.1)
First Grade	10,754,730	(41.2)	11,693,543	(39.9)	13,557,136	(42.2)	6,625,918	(26.2)
Second Grade	1,345,423	(5.2)	1,365,025	(4.7)	1,605,705	(5.0)	667,439	(2.6)
Off Grade	97,344	(.4)	74,806	(.2)	70,257	(.2)	35,425	(.2)
	26,121,338	(100.0)	29,286,577	(100.0)	32,152,976	(100.0)	25,291,073	(100.0)

It will be noted that the general quality of cream is far below that of pre-war years as indicated by the 1939 figures. Had the quality been equal to that of 1939, it would have meant an additional $116,000 to Alberta cream producers. This problem presents a real challenge to the industry, as Alberta is dependent on export markets for a large portion of her creamery butter make.

Butter and Cheese Quality

FEDERAL REPORT OF ALBERTA CREAMERY BUTTER GRADED

Year	Total Pounds Graded	% of make Graded	Percentage in Each Grade			
			First	Second	Third	Below Third
1938	27,839,952	(89.1)	85.7	7.9	5.4	1.0
1940	27,243,216	(91.4)	88.1	7.1	4.4	.4
1942	33,614,392	(90.9)	84.1	10.2	5.0	.7
1944	34,797,504	(92.0)	87.0	7.0	5.7	.3
1945	31,771,600	(91.6)	88.6	5.7	5 4	.3
1946	27,842,304	(90.5)	88.4	5 5	5.7	.4

The percentage of butter qualifying for first grade was again over 88 per cent.

A serious drop of approximately 10 per cent occurred in 93 score, which is the highest commercial quality, and no doubt less special grade cream was a contributing factor. Had the percentage of the total make graded been as large as in 1945, it is likely that the percentage in first grade would have established a new record as many churnings packed for local print trade of first grade quality were not submitted for grading.

FEDERAL REPORT OF ALBERTA CHEESE GRADED

Year	Total Pounds Graded	% of make Graded	Percentage in Each Grade			
			First	Second	Third	Below Third
1940	1,935,750	(71.5)	70.6	28.4	.9	.1
1941	2,498,988	(79.6)	78.6	21.0	.2	.2
1942	3,785,718	(96.8)	81.0	18.7	.2	.1
1943	2,353,872	(91.8)	80.7	19.0	.2	.1
1944	3,339,147	(89.9)	79.0	20.4	.4	.2
1945	3,869,325	(97.1)	82.0	17.6	.3	.1
1946	3,100,332	(96.0)	79.6	19.8	.4	.2

Services of the Dairy Branch

Dairy Inspection and Instruction.

Dairy Branch inspectors made 1,487 visits to dairy factories during the year. Of first importance was enforcement of The Dairymen's Act, and regulations concerning correct purchase of milk and cream. Check-testing of samples for butterfat content at creameries and milk plants was carried out on 22,876 samples, while grading was checked on 67,889 cream shipments. The quality of milk supplied regularly to cheese factories was checked, and accepted or rejected according to the recognized standards.

Educational tests for quality of milk in the regular course of delivery to plants were conducted by the Dairy Branch. Judges were also supplied to locally sponsored cream competitions held in conjunction with dairy field days.

An increase in the amount of instructional work based on findings of research has assisted materially in solving both general and local manufacturing problems. Samples for bacteriological or chemical analyses were lifted and forwarded to the Dairy Laboratory, and the results of these analyses have been applied as a guide to plant procedure.

Inspectors have carried out a plan instituted to discourage use of unfit containers for holding and shipping milk or cream. In the course of this programme, a total of 1,034 cans were condemned, and were either repaired or voluntarily discarded from use as containers for milk or cream. With sufficient supplies of cans now available, a greater number of unfit cans were replaced during 1946 than was the case for several years.

Diploma Course in Dairying.

The Dairy Branch and the Canadian Vocational Training School co-operated with the Department of Dairying, University of Alberta, in offering a diploma course for ex-service personnel. With the completion of this first six months' course on April 30th, 1946, the group of sixteen candidates was immediately absorbed by the industry. Seven of the candidates were granted diplomas and nine received certificates from the University of Alberta. The Alberta Dairymen's Association Gold Medal for the highest standing was won by S. S. Paulsen.

Short Course in Milk Pasteurization.

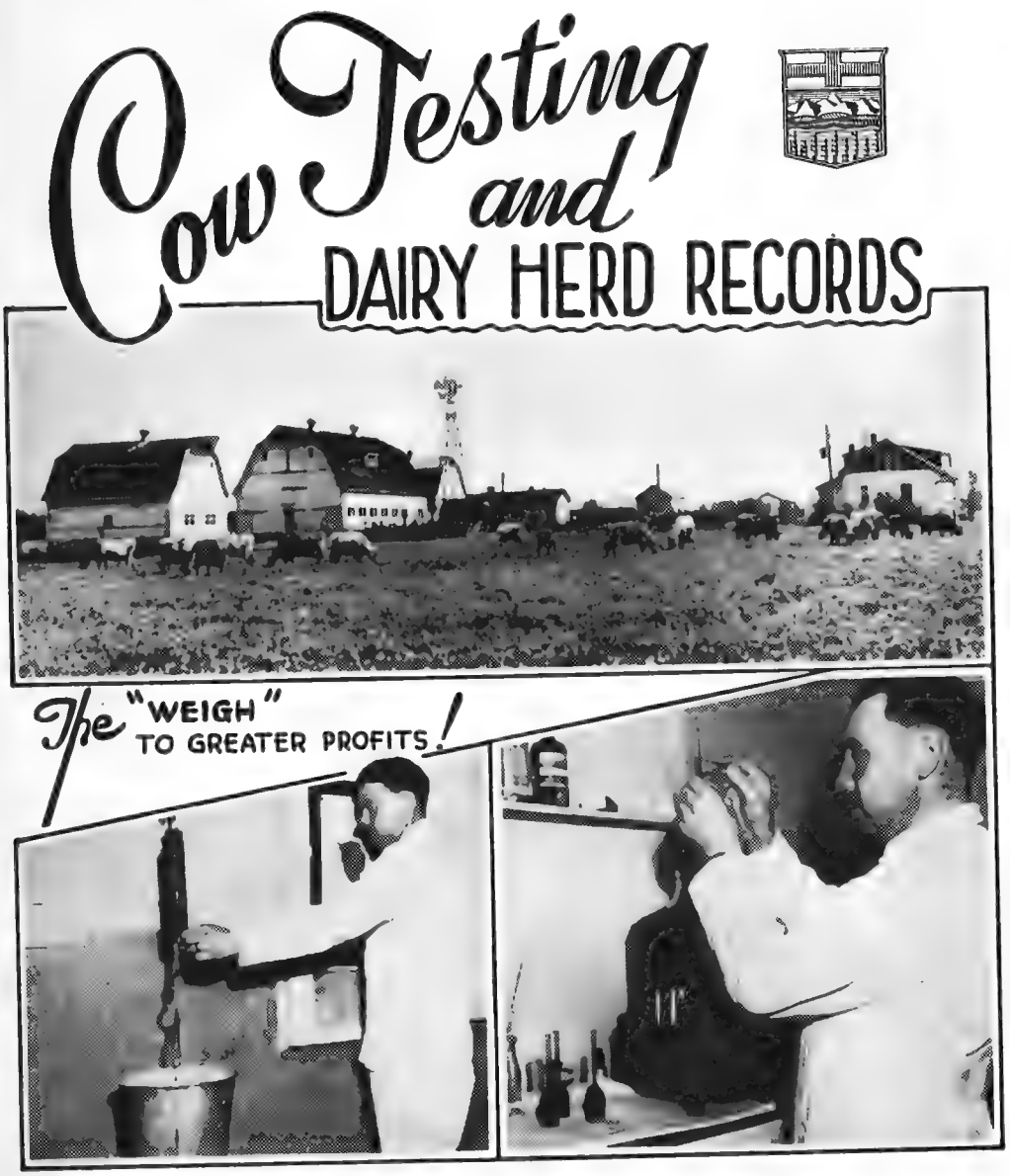
The establishment of several new milk pasteurizing plants by firms during the year found a shortage of trained personnel. To meet this need, a three-day short course in milk pasteurization under the joint sponsorship of the Department of Dairying of the University of Alberta; the Dairy Branch, Department of Agriculture; and the Department of Public Health was conducted at the University of Alberta on December 19th, 20th and 21st. This course embodied all aspects of pasteurization and sanitation in milk distributing plants. It was attended by a representative group of 40, from widely separated points throughout the Province.

Cow Testing and Herd Improvement.

The cow testing service offered to all herd owners in the Province was continued throughout the year. The programme is designed primarily to assist the grade herd owners in obtaining a record of milk and butterfat production of individual cows, so that a constructive programme of breeding, culling and feeding can be followed.

Early in the year the Cow Testing Supervisor rejoined the staff, after an absence of nearly four years. He visited the majority of herds under test, assisting the herd owners in utilizing the information obtained from their testing programme.

During the year, a complete survey of the testing service was undertaken, and questionnaires were sent to all members, with a view to modifying and expanding the programme. The results of this questionnaire indicated that many herds were not being tested,



Front Cover of New Cow Testing Bulletin

due to the labour problem of weighing each cow's milk daily. With this in mind, an alternative service whereby a month's production is computed from one day's weighing, is now being offered. The results obtained under this system of testing provide a surprisingly accurate index to the conducting of a successful breeding, culling and feeding programme.

Testing of milk samples is now being done monthly at three centres, namely, the Dairy Laboratory, Edmonton; Olds School of Agriculture, Olds; and the office of the Dairy Branch Inspector, Camrose. The monthly testing of samples has met with the approval of the herd owners, and is providing a more accurate record than previously.

Commencing July 1st, all certificates of production issued have been on the basis of 305 days, which in effect raises the standard of qualification and at the same time conforms to the good commercial dairy practice of yearly freshening, with a six to eight weeks' dry period. A complete outline of the Cow Testing Service now being offered has been outlined in the booklet, "Cow Testing and Dairy Herd Records", published by the Dairy Branch during the year.

The method of submitting a yearly summary to the herd owner has been revised to provide a true and accurate picture of the conditions existing in his herd. The total milk and butterfat produced between November 1st and October 31st, divided by the total number of cows on test, is the herd average. However, where new cows are placed on test, or a cow is sold or dies, only the part of the year in which she produces is used in determining the herd average. This basis of calculating herd averages is known as the "Cow Year Basis", and will be used from now on in tabulations setting forth such information.

The following tabulation sets forth the average production of the herds under test, and also the extent to which the service was utilized. Figures for the past three years have been included. To compare the production on the basis of cow years, 57 herds, or only those which were tested continuously in 1945, were included in this tabulation.

	1946	1945	1944	1943
Number of herds under test	86	89	109	128
Number of cows under test	1,145	1,178	1,389	1,600
Herd Average on Basis of Completed Lactations or 8-month's Recordings:				
Number of cows		789	993	1,094
Average production of milk, lbs.		8,088	8,045	8,096
Average production of butterfat, lbs.		304.2	303.0	305.4
Average test		3.76	3.77	3.77
Herd Averages on Basis of Cow Years:				
Number of cow years	830.40	593.55		
Average production of milk, lbs.	8,653	8,529		
Average production of butterfat, lbs.	333.2	315.7		
Average test	3.85	3.71		

There were three less herds and 33 fewer cows under test than during 1945.

The average production of cows under test showed a considerable increase in both milk and butterfat during the year.

It is most gratifying to note that a larger number of Gold Seal Certificates were issued during the year than in any previous year, in spite of the fact that during certain years almost twice the number of cows have been under test.

To indicate the number of certificates issued in the different classifications, the following table has been prepared, and for sake

of comparison the figures for the previous three years have been included:

	1946	1945	1944	1943
Gold Seal	81	54	78	54
Red Seal	241	212	223	278
Blue Seal	308	304	454	428
Statements	72	97	135	200
Total	702	667	890	960

There was an increase in the number of herds of five cows or more qualifying for the Honor Roll, with an average of over 300 lbs. of butterfat per cow. A total of 49 herds, as compared to 37 in 1945, are included in this list.

HONOR ROLL, 1946

Name	Address	No. of Cows	Ave. lbs. Butterfat
Alexander, W. W.	Picture Butte	12	379.7
Anderson, C. K.	Camrose	21	325.9
Antrim, M. G.	Alhambra	21	315.0
Boulter, L. F.	Rosalind	5	322.6
Black, Wm.	Camrose	7	415.5
Bailey, W. L.	Wetaskiwin	15	414.6
Bajema, A. J.	Blackfalds	6	324.0
Bajema, J. A.	Blackfalds	9	337.2
Bacon, G. Ross	North Edmonton	17	346.7
Ball, J. O.	South Edmonton	27	317.1
Culshaw, R.	Sedgewick	13	310.3
Choice Dairy	Medicine Hat	21	621.0
Dixon, J. W.	Peavine P.O.	6	310.9
Dowdell, A. E.	Millet	11	500.7
Dowdell, W. C.	Millet	16	428.6
Echlin, L.	Olds	10	448.9
Erickson, J.	Bentley	18	436.0
Forbes, Wm. C.	Innisfail	6	318.2
Flach, C. J.	Opal	13	488 5
Gould, S. P.	Rosalind	10	440.4
Gibbs, C. E.	Innisfail	16	355.5
Haines, J.	Millet	5	407.3
Hoeve, J.	Lacombe	12	368.5
Jensen, C. T.	Lacombe	20	323.9
Jean, H.	Lafond	6	337.7
Jones, D. C.	Leduc	18	442.8
Kauffman Bros.	Tofield	11	473.1
Kerr Bros.	Lousana	21	339.7
Magnesson, Ed.	Ryley	16	311.1
McGhan, L.	South Edmonton	22	388 1
Nelson, M.	Millet	21	441.1
Nicholson, H.	Westlock	5	409.7
Quail, H. W.	Round Hill	11	315.6
Roth, C. C.	Rochfort Bridge	9	324.7
Rude, E. J.	Ryley	10	327.6
Smith, W. M.	Didsbury	7	392.3
Stannard, G. H.	South Edmonton	32	414.4
Stannard Bros.	South Edmonton	43	456.5
Stevens, J. R.	Didsbury	18	381.3
Stelfox, A. E.	Daysland	8	432.5
Sundlie, A.	Ryley	11	498.5
Thesberg, N.	Markerville	8	322.5
Wilson, M. M.	Rochfort Bridge	10	335.4
Wilkinson, C. H.	Clover Bar	18	327.8
Winsnes, Wm.	Ryley	17	388.6
Webb, C.	Swalwell	19	338.1
Westmancoat, R. K.	Ryley	9	386.9
Woods, J. A.	Elnora	11	392.9
Vermilion School of Agriculture	Vermilion	19	398.8

Dairy Branch Laboratory.

Services at the Dairy Branch Laboratory were extended during the year, resulting in a large increase in the number of milk samples analyzed.

The following table shows the distribution and number of samples analyzed during the year ending November 30th, 1946:

(1) Butter samples for mould and yeast	3,785
(2) Water samples	24
(3) Bacteriological creamery surveys	7
(4) Butter samples for pH determinations	346
(5) Cheese samples	102
(6) Milk samples for mastitits control program	2,500*
(7) Milk plant control service	582
(8) Milk samples for cow testing service	4,000*
(9) Miscellaneous	93
	11,439

*Estimated.

The mould and yeast count on creamery butter was continued as a check on creamery sanitation, and the following tabulation indicates the improvement made since the service was inaugurated in 1925:

Year	No. of Analyses	Classification in Percentages			
		Excellent (0 to 10)	Good (11 to 50)	Fair (51 to 100)	Poor (Over 100)
1925	686	3.6	12.7	12.1	71.6
1930	2,799	35.7	20.3	10.3	33.7
1935	2,177	55.4	17.9	7.7	19.0
1940	3,013	64.6	16.0	7.2	12.2
1945	4,050	68 2	14.9	5.7	11.2
1946	3,785	74.9	13.0	3.9	8.2

It will be observed from the above that the highest percentage of churnings classified as Excellent (74.9) were recorded for 1946. Fewer bacteriological creamery surveys were required, due to fewer difficulties than usual with major problems, such as mouldy butter and the development of surface taint.

A larger number of butter samples were received for PH determinations, and these samples indicated an improvement in neutralizing practices, as 54.8% were within the recommended range, as compared to 46.3% the previous year.

During the latter part of the year, the Mastitis Control Programme was inaugurated, which greatly increased the amount of work at the Laboratory and necessitated additions to the staff.

A request from the Producers' Section of the Alberta Dairymen's Association resulted in the Department providing laboratory facilities for this programme. Recommendations from a committee appointed from a meeting of all interested agencies were adopted, and resulted in milk samples from each quarter of the udder being analyzed from all cows in herds adopting either of the two plans.

Plan No. 1 is a control programme limited to the Edmonton area, which was made necessary by insufficient laboratory facilities. Under this plan, the Dairy Laboratory analyzes milk samples in orde to detect the presence of mastitis, and furnishes information to qualified veterinarians, who in turn agree to treat all infected quarters, insist that the herd owner adopt a recommended procedure of hard management for prevention, and furnish a report on the results of the treatment. Plan 2 was limited to herds at institutional farms, and the Department, through its Veterinarian Branch, administered treatment and also directed herd management practices. The sampling was done in these herds by a fieldman of the Dairy Branch.

Both of these plans are investigational in nature, and are conducted on a herd basis. It is expected that the results will furnish valuable information which can be used to attack this problem on a large scale, as mastitis is considered to be the worst enemy of the specialized dairyman. As the work was delayed, awaiting proper sampling equipment, and only a limited number of herds were treated before the end of the year, no report is being made on the results of this work.

The Laboratory Control Service for milk distributing plans commenced August 1st, 1946, as a result of requests from milk distributors in Edmonton. The service provides technical assistance to plants in the form of a weekly survey, for which charges are made on the basis of $40.00 monthly. Provision has also been made to analyze samples for milk plants located at other points, for a charge of $1.00 per sample.

The change at the middle of the year from bi-monthly to monthly butterfat tests for herds on the Cow Testing Service increased the number of Babcock tests at the Laboratory. Other services, such as the propagation and distribution of cheese starters, the preparation and distribution of solutions and indicators, were continued as in former years.

Dairy Cost Study.

In order to meet the requirements of the Board of Public Utility Commissioners, adequate numbers of cost accounts were continued among milk shippers in the Edmonton and Calgary districts, and accounts were re-opened in the Lethbridge area. The number of accounts in the Lethbridge area is still too small. Groups of churning cream and condensery farms have been carried to give a continuous picture of changing conditions and to provide farm business data for use in advisory and extension work. Two years ago the field staff was reduced from three men to one. Consequently, it has been necessary to reduce the number of farms in the churning cream and condensery groups.

In the latter part of 1946, a request was made to the Utility Board by the Medicine Hat shippers for a cost of production study in that area. A preliminary survey has been undertaken, and accounts will be set up during 1947, with assistance from the local representative of the Utility Board.

The report prepared this year for farmers keeping accounts was somewhat enlarged over previous years. It was entitled, "Cows, Costs and Cash", and met with considerable favour by most of the co-operators. The report included a summary of the salient features of the dairy farm business over the years during which the accounts had been kept. From this summary, the farm operator could appraise the yearly results from his own farm, and compare his position with the group average. The report also contained a more detailed summary of the most recent years' results. This information was supplied to each co-operator, and the results for his own farm were included for the sake of comparison.

The following tabulation shows the group averages for the various factors of efficiency by years, 1939 to 1945. Certain groups were under survey only part of the period.

	Group	1939-40	1940-41	1941-42	1942-43	1943-44	1944-45
Milk Receipts per lb. Butterfat sold, cents	Calgary Whole Milk			64	72	80	82
	Edmonton Whole Milk	52.9	54.9	63.0	75	83	86
	Churning Cream	21	25	32	40	42	44.6*
	Condensery Milk				51	55	57
Butterfat per Cow, lbs.	Calgary Wholemilk			264	249	257	255
	Edmonton Wholemilk	296	291	296	301	283	277
	Churning Cream	217	217	215	223	210	189
	Condensery Milk				237	242	217
Cost per pound Butterfat, cents	Calgary Wholemilk			50	64	75	78
	Edmonton Wholemilk	49.4	47.1	59.1	68	71	79.6
	Churning Cream	36	36	37	54	67	67
	Condensery Milk				64	78	70
Returns per hour of daily chores, cents	Calgary Wholemilk			43	50	53	54
	Edmonton Wholemilk	19.7	26.6	32 6	45	64	54
	Churning Cream	10	14	20	19	14	17
	Condensery Milk				21	22	21
Returns per $100 dairy feed, dollars	Calgary Wholemilk			259	265	242	242
	Edmonton Wholemilk	221	253	233	252	279	233
	Churning Cream	179	235	226	218	203	186
	Condensery Milk				221	208	232
Average No. of Cows	Calgary Wholemilk			31	33	36	37
	Edmonton Wholemilk	20.5	19.4	21	23	24	27
	Churning Cream	10	9	9	11	12	12
	Condensery Milk				12	13	12
Labour Earnings, dollars	Calgary Wholemilk			2,408	2,671	2,093	2,552
	Edmonton Wholemilk	874	930	1,165	2,275	2,305	2,916
	Churning Cream	134	694	852	1,307	823	1,610
	Condensery Milk				755	917	1,123

*Three farmers patronized markets other than churning cream for part of the year. Without them, the average price for the remainder of the group was 43.6 cents.

In view of the present tendency to stress efficient use of labour on farms, the following table from the 1944-45 Cost Study on Edmonton and Calgary whole-milk farms has been included. It will be noted how better use of labour is reflected in higher earnings.

WHOLEMILK

Labour Earnings, $2,000 and less:		Labour Earnings, $2,000 or more:	
No. of Farms	18	No. of Farms	26
Average Labour Earnings	$ 954	Average Labour Earnings	$3,821
Crop Acres	155	Crop Acres	246
Crop Index, %	86.8	Crop Index, %	109.3
No. of Cows	26	No. of Cows	38
Live Stock Index, %	93	Live Stock Index, %	105
Man Work Units, per man	309	Man Work Units, per man	374

"Man work units per man" describes the combined acres of land and head of live stock per worker. The labour on farms in the second group was therefore caring for more crop and live stock (374 units) than the labour on the farms in the first group (309 units). At the same time, the crop index (109%) and the live stock index (105%) show that crop yields and live stock production were above average. This relatively efficient use of labour is reflected in the considerably higher labour earnings of the second group of farms. While these particular farms were producing whole milk, the same relationship between use of labour and earnings is indicated from the returns of churning cream and condensery farms.

It is proposed that this project, referred to as Dairy Cost Study or Dairy Farm Survey, be established on a permanent basis as outlined below, and will be renamed the "Dairy Farm Business Service". The service will be designed to perform two major functions:

(1) To provide data on farm production costs of milk and other dairy products.

(2) To provide farm business data from farms on which the production of dairy products is a significant enterprise, for use in advisory and extension work.

Information gathered from the Dairy Cost Study was used as a basis for addresses, radio talks and publications to interested groups of dairymen.

Butter Weighing.

The check weighing of butter and the issuing of weight certificates was a service continued for the benefit of the butter trade. During 1946 weights were checked on 4,307 boxes, representing 2,118,704 lbs. of butter.

Frozen Food Locker Plants.

The establishment of Frozen Food Locker Plants continued at a high level during 1946 in spite of serious shortages of building material. There were 83 plants, with a total of 22,421 lockers in operation at the end of the year, as compared to 61 plants with 16,770 lockers at December 31st, 1945.

One locker plant was partially destroyed by fire with little damage to contents of lockers, while another plant suspended operations as a result of the locker room becoming flooded through an unknown cause.

The new plants put into operation were of a particular high standard for construction, convenience and sanitary features. These plants benefited from information supplied by the Department of Agriculture on proper vapour proofing, and also by demonstrations

on plant operations, which were featured at the Alberta Cold Storage Locker Plants Association Convention.

In addition to the 83 plants in operation, the Department granted approval for a license to another 36 prospective operators. Several of these approved plants are partially constructed, and will be in a position to offer a much needed service to their respective communities just as soon as building material, particularly cement, becomes more plentiful.

A revision of the regulation governing the licensing of locker plants was brought about by O.C. 499-46, which was made effective March 18, 1946. In addition to revising the license fee, these regulations provided that evidence must be submitted, showing the contents of lockers to be satisfactorily insured before licenses could be issued or renewed. The approval granted for the construction of a locker plant was declared to be not transferable, and such approval was granted for a period of six months only.

Inspectors at all plants have been made at regular intervals throughout the year by inspectors of the Dairy Branch. A high standard of service has been maintained by the majority of plants and the Act and Regulation have been strictly enforced.

Mr. F. W. Wood resigned his position at part-time Supervisor of Frozen Food Locker Plants in July, and Mr. L. H. Arnold, former operator of the Three Hills plant, was appointed on a full-time basis in September. His many years of experience in the meat trade should prove of great benefit to operators, particularly those just commencing.

Realizing the need for an adequate and uniform bookkeeping and record system, the Department published and distributed a bulletin late in the year entitled "A Simple Record System for Locker Plant Operators." If this system is followed closely, it will fulfill a much needed requirement among some of the more recently established plants. Certain plants have improved their methods of identifying cured meat by using a hog slapper, which tattooed the customer's locker number on each piece of cured meat.

Improved methods of wrapping and packaging were introduced in many Alberta plants during the year. The drug store wrap for meat, with two thicknesses of paper, the inner one being moisture resistant, has proven to be the most satisfactory and is being recommended.

The experiments to determine the best varieties of fruits and vegetables for freezing were continued at the Provincial Horticulture Station, Brooks. These results will be judged early in 1947, and this information should prove of great value to patrons of locker plants.

The Second Annual Convention of the Alberta Cold Storage Locker Plants Association was held in Calgary, April 8th and 9th. The programme of lectures and demonstrations proved to be of considerable value to the large audience.

The Strathmore Cold Storage Lockers Ltd. (W. Jensen, Mgr.), was awarded the Bruce Robinson Electric Challenge Shield for the most ideal locker plant in operation during 1945.

The following table sets forth information secured from the monthly reports on all plants reporting during the period December 1, 1945, to November 30, 1946:

	Pounds	Per Cent
Fresh Meats	3,914,406	75.7
Fish	48,669	1.0
Poultry	341,894	6.6
Game Birds	41,397	.8
Big Game	89,045	1.7
Cured Meats	469,199	9.1
Lard Rendered	36,577	.7
Fruits	118,685	2.3
Vegetables	88,957	1.7
Miscellaneous	22,197	.4
	5,171,026	100.0

Number of plants reporting	83
Number of lockers installed	22,421
Average numbers of lockers installed	270
Number of lockers rented at December 1, 1946	18,640
Percentage of lockers rented at December 1, 1946	83.1
Average pounds of od stored per locker with complete service	337
Pounds of food stored per locker without complete service	149
Average poundage per locker all plants	277.4
Inspection during 1946	270

Staff Retirements

Two members of the staff with a total of 65 years' service as inspectors, retired on superannuation during the year. J. R. Flan retired the end of February after being with the Branch continuously since May 1908; while W. Rourke commenced superannuation October 1st, having joined the service in June, 1919. These men played important roles in the development of the dairy industry in Alberta, and will be greatly missed by their associates. We are sorry to record that Mr. Flan passed away on June 16th after a brief illness.

Data

The following tables set forth the details of production for 1946 and statistical information concerning dairying in former years:

MONTHLY AVERAGE NET PRICES ESTIMATED PAID BY CREAMERIES IN ALBERTA PER POUND OF BUTTERFAT IN "SPECIAL GRADE" CREAM, F.O.B. SHIPPING POINT, FOR FOUR YEARS

	1946		1945		1944		1943	
	Cents	%	Cents	%	Cents	%	Cents	%
January	33.25	(4.9)	32.7	(4.8)	32.2	(4.8)	33.5	(5.1)
February	33.25	(5.2)	32.7	(5.2)	32.5	(5.2)	33.5	(5.3)
March	33.25	(5.7)	32.7	(6.1)	32.5	(6.0)	33.5	(5.8)
April	38.25	(7.1)	32.7	(7.0)	32.5	(7.5)	32.5	(7.0)
May	37.25	(11.1)	32.7	(9.2)	32.0	(10.6)	31.3	(9.8)
June	36.25	(15.8)	31.95	(14.3)	31.5	(14.4)	31.0	(13.9)
July	37.0	(16.0)	32.45	(14.6)	32.0	(14.1)	31.5	(14.1)
August	38.25	(13.8)	32.7	(12.6)	32.5	(12.2)	31.5	(12.6)
September	38.25	(5.0)	32.7	(10.0)	32.5	(9.1)	31.5	(9.6)
October	38.25	(6.5)	32.95	(7.0)	32.7	(6.8)	31.5	(7.0)
November	38.25	(4.9)	33.45	(4.9)	32.7	(5.1)	31.5	(5.3)
December	38.25	(4.0)	33.45	(4.3)	32.7	(4.2)	31.5	(4.5)
The Year	36.66	(100.0)	32.67	(100.0)	32.28	(100.0)	31.71	(100.0)

*The estimated average prices paid for Special Grade butterfat during 1943, '44, '45 and '46 do not include the Dominion Government Subsidy. The subsidy was 10c per lb. from January to April 30, 1943, when it was reduced to 8c and effective to December 31, 1943.

During 1944, '45 and '46, a subsidy of 10c per pound butterfat was in effect.

NOTE.—The figures enclosed in brackets represent the monthly percentages of the cream receipts for the year.

CREAMERY BUTTER PRODUCTION

Year	Creameries	Pounds Butter	Selling Value	
			Total	Cents per lb.
1920	53	11,821,291	$ 6,555,509	(55.45)
1925	99	19,630,101	6,959,059	(35.45)
1930	92	17,716,744	4,968,227	(28.04)
1935	97	23,094,707	4,588,917	(19.90)
1940	95	29,796,520	6,647,604	(22.31)
1941	94	35,316,143	10,789,082	(30.55)
1942	94	36,985,909	11,835,491	(32.00)
1943	93	38,656,940	12,443,669	(32.19)
1944	93	37,806,568	12,207,172	(32.29)
1945	91	34,692,917	11,389,875	(32.83)
1946 (Preliminary)	92	30,963,889	11,337,000	(36.85)

FACTORY CHEESE PRODUCTION

Year	Factories	Pounds Cheese	Selling Value	
			Total	Cents per lb.
1920	7	398,750	$ 110,355	(27.70)
1925	14	1,473,835	306,604	(20.80)
1930	8	1,035,352	175,392	(16.94)
1935	11	1,364,526	168,280	(12.33)
1940	18	2,705,853	385,584	(14.25)
1941	18	3,140,978	614,061	(19.55)
1942	20	3,908,545	843,464	(21,58)
1943	18	2,563,257	592,112	(23.10)
1944	18	3,712,936	819,106	(22.06)
1945	18	3,985,160	903,309	(22.67)
1946 (Preliminary)	18	3,228,661	727,000	(22.50)

CREAMERY BUTTER PRODUCTION

	1945 Pounds	1946 Pounds	% *Increase †Decrease
January	1,653,683	1,497,091	† 9.5
February	1,624,134	1,425,007	† 12.3
March	2,115,096	1,690,324	† 20.1
April	2,360,197	2,167,990	† 8.1
May	3,228,447	3,472,790	* .7.6
June	4,920,847	4,698,816	† 4.5
July	5,017,182	5,144,633	* 2.5
August	4,598,913	4,347,712	† 5.5
September	3,389,719	1,514,755	† 55.3
October	2,592,922	2,065,885	† 20.3
November	1,679,186	1,504,658	† 10.4
December	1,512,591	1,234,228	† 18.4
	34,692,917	30,763,889	† 11.3

CREAMERY BUTTER PRODUCTION

Regional Division	1945	1946	Difference	%
Northern	15,780.443	14,450,324	1,330,119	† 8.4
Central	12,385,418	10,780,351	1,605,067	† 13.0
Southern	6,527,056	5,533,214	993,842	† 15.2
	34,692,917	30,763,889	3,929,028	† 11.3

FACTORY CHEESE PRODUCTION

	1945 Pounds	1945 Pounds	% *Increase †Decrease
January	248,460	205,728	† 17.2
February	250,106	181,812	† 27.3
March	311,221	241,519	† 22.4
April	330,037	273,795	† 17.0
May	390,044	372,713	† 4.4
June	525,883	459,809	† 12.6
July	529,734	469,816	† 11.3
August	480,485	387,195	† 19.4
September	373,381	189,482	† 49.3
October	248,793	176,298	† 29.1
November	132,353	122,817	† 7.2
December	164,663	147,677	† 10.3
	3,985,160	3,228,661	† 19.0

TOTAL ANNUAL VALUE OF DAIRY PRODUCTS

1900	$ 546,476	1940	$19,532,344
1910	7,855,761	1941	27,376,772
1915	15,896,586	1942	31,574,838
1920	34,000,000	1943	34,428,814
1925	23,002,000	1944	35,411.820
1930	18,675,500	1945	34,588.305
1935	14,252,500	1946	36,698,000

MILCH COWS

Year	Cows	Year	Cows
1901	46,101	1940	416,800
1906	101,235	1941	362,064
1911	147,687	1942	366,800
1916	277,324	1943	376,000
1921	432,838	1944	385,500
1926	436,500	1945	376,400
1931	385,000	1946	353,700
1936	458,200		

REPORT OF ADMINISTRATOR OF MILK CONTROL

(A. T. NEALE)

The year 1946 found the fluid milk industry in a state of confusion and uncertainty, a condition brought about by the removal of several of the control measures under which the industry had complacently functioned during the past emergent period. The resulting impact was so disturbing that it is only now, after the passing of several months, and after the spending of much time and energy by the several Government Boards and official organizations concerned, that a reasonable measure of stability has been regained, and the necessary adjustment satisfactorily effected.

On June 1st, 1946, the Wartime Prices and Trade Board revoked its order No. A-1250 which had provided up to that time for maxima prices for fluid milk, fluid milk products, and cream, as well as for the payment of a subsidy to the distributors of fluid milk at the rate of 2c per quart, as reimbursement for an equivalent allowance by them from the lawful price to the consumer. The effect of this revocation was that the consuming public were called upon to pay the full cost of milk purchased, and be deprived of the benefit which Government assistance had provided since December 16th, 1942.

Likewise on June the 1st, thePrices Board relinquished control of the fluid milk industry, which it had assumed on May 1st, 1942, returning such power to the Provincial Control Agencies.

The producer subsidy which had been paid to producers by the Agriculture Food Board at the rate of 55c per hundred pounds was discontinued as from September 30th, 1946, and immediately following the Government's decision in this respect becoming known, many applications were received by the Board from operators for price increases to provide a cash return with which to compensate producers for a subsidy loss. As a result of these applications, the Board held hearings in Lethbridge, Calgary, Edmonton and the Crow's Nest Pass, and after due consideration had been given to the evidence adduced at these hearings, the Board ordered price increases for all of its controlled areas, as well as for many other markets of the Province which were affected by the discontinuance of the subsidy payment.

It was thought that higher prices would have the effect of decreasing the fluid milk demand, but although a reduction in sales volume did immediately result, it proved only temporary, and the fluid requirement quickly reverted to the high level it had reached prior to these price increases going into effect.

By the provisions of its Order No. 642, the Prices Board suspended all its orders and regulations which related to maxima prices of, amongst other commodities, milk and cream, and this order in effect released the Board from its responsibilities to the Prices Board in respect of milk price adjustments of markets other than those controlled by the Board under Provincial jurisdiction.

Although the fall months brought the usual seasonal decline in production, a fair supply of milk has been available for use in the fluid trade throughout the year, and future supplies should prove adequate as a result of improved labour conditions and the effect of the issuance of a Board Order reinstating the producers' fluid milk quotas on an improved basis. It may be well to mention that this Order came as a result of an agreement reached between producers

and distributors, and following public hearings on quota matters held in the cities of Lethbridge, Calgary and Edmonton.

The year has seen several of the shippers, who have been for many years producing milk for the fluid trade, retire and go out of business, but it is gratifying and augurs well for the future supply that their places in the fluid production field have mostly been taken by younger, but nevertheless efficient operators.

The Wartime Prices and Trade Board has continued its control of cream for fluid purposes, and has ordered that the butterfat content of distributors' monthly sales must not exceed the butterfat contained in their respective sales of cream during June, 1944, with an additional 10%. This limitation has made it necessary for certain distributors to employ some measure of rationing of cream to the consuming public.

The Board has continued to assist in the conduct of the dairy cost survey, and to provide funds with which to defray the major portion of the costs incurred. It may be mentioned that it has been arranged to extend this survey further by proceeding with a study of producer costs of the Medicine Hat area.

In order that the Board may be furnished with information in respect of distribution costs, the Board has directed its Auditor, Mr. C. J. D. Baines, C.A., to conduct an investigation of such costs at each of the plants distributing milk and cream for fluid consumption in controlled areas. When the surveys and investigations before mentioned have been fully completed and reported upon, the Board will have available for its guidance and for application in the building of its price structures, a detailed and up-to-date summary of all fluid milk costs of the areas under its control.

In July, 1946, an application was presented to the Board by the Medicine Hat Milk Producers' Association, in which the Board was asked to conduct an inquiry into the fluid milk industry of that city, preparatory to the placing of that area under the Board's direction in respect of the supply, distribution and prices of milk and cream for fluid consumption. A preliminary investigation disclosed reasonable grounds for the conduct of such an inquiry, and the Board therefore held a public hearing at the Court House, Medicine Hat, on September 16th, 1946, and after duly considering the relevant evidence there adduced, declared the area a controlled one, with Board orders and regulations having effect therein on and after October 15, 1946.

Meetings.

For discussions in respect of milk control in general and of supply, prices and subsidies in particular, representatives of the Board attended the following meetings during the year:

Niagara Falls—Canadian Dairy Farmers Convention.

Ottawa—Agricultural Food Board and Wartime Prices and Trade Board meetings.

Ottawa—Canadian Milk Control Agencies with the Federal Minister of Agriculture.

Edmonton—Western Milk Control Agencies convention.

Consumers' Subsidy.

On May 31st, 1946, when payment of this subsidy was discontinued by the Commodity Prices Stabilization Corporation, Ltd.,

approximately 500 distributors were claiming reimbursement for the amounts allowed their customers in respect of this subsidy.

Producers' Subsidy.

This subsidy was in effect until September 30th, and was paid at the rate of 55c per hundred pounds on milk produced and utilized for fluid consumption in 56 markets of the Province. The poundage affected was 106,059,200, and the total subsidy paid was $583,325.46. Producer-distributors of 18 markets having received additional cash return from price increases were paid the subsidy at the rate of 35c per hundred pounds only, the poundage so affected was 1,981,100 pounds, and the amount paid was $5,943.22.

Price Adjustments.

The Board authorized milk price adjustments during the year for the following markets: Alix, Amisk, Bassano, Beiseker, Crow's Nest Pass, Blackie, Bonnyville, Bow Island, Calmar, Canmore, Cardston, Claresholm, Clover Bar, Cochrane, Condor, Czar, Dewberry, Drumheller, East Coulee, Elnora, Erskine, Faust, Foremost, Forestburg, Gadsby, Grande Prairie, Hanna, Hay Lakes, High River, Innisfail, Jasper, Lac La Biche, Lacombe, Medicine Hat, Michichi, Milo, Morinville, Munson, Nobleford, Olds, Onoway, Peace River, Ponoka, Raymond, Redwater, Rocky Mountain House, Rosebud, Rosedale, St. Albert, St. Paul, Sexsmith, Stettler, Therien, Three Hills, Trochu, Vegreville, Viking, Wainwright, Warner, Wayne, Westlock, Wetaskiwin, Willow Creek, Calgary, Camrose, Edmonton, Lethbridge, Ponoka, Red Deer, Bowden.

TABLES

1. Per Capita, per diem, Consumption of Fluid Milk in Pints, Monthly, for 1946.
2. Consumption of Fluid Milk in the cities of Calgary, Edmonton, and Lethbridge, Monthly, 1946.
3. Consumption of Fluid Cream in the cities of Calgary, Edmonton and Lethbridge, Monthly, 1946.
4. Fluid Milk Consumption in the cities of Calgary, Edmonton and Lethbridge, 1942-1946.
5. Fluid Cream Consumption in the cities of Calgary, Edmonton and Lethbridge, 1942-1946.
6. Fluid Milk Purchases by Edmonton, Calgary and Lethbridge Distributing Plants, 1942-1946.
7. Summary of Milk and Cream Producers operating on December 31st, 1946, under Board of Public Utility Commissioners' license.
8. Summary of Milk and Cream Distributors operating on December 31st, 1946, under Board of Public Utility Commissioners' license.
9. Effective Milk and Cream Prices in Alberta Controlled Areas.
10. Comparison of Purchase and Resale Prices of Milk and Milk Products as effective December 31st, 1946.

PER CAPITA CONSUMPTION OF FLUID MILK, IN PINTS, MONTHLY, FOR 1946

TABLE 1

(To include Cream Consumption Converted to Milk Equivalent)

PINTS (PER DIEM)

Areas	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Calgary ..	1.181	1.244	1.262	1.247	1.245	1.226	1.221	1.187	1.180	1.133	1.182	1.130
Edmonton	1.121	1.183	.959	1.01	1.18	1.239	1.132	1.113	1.113	1.113	1.109	1.089
Lethbridge	1.16	1.09	1.18	1.21	1.18	1.14	1.19	1.20	1.14	1.15	1.28	1.3

TABLE 2

CONSUMPTION OF FLUID MILK IN THE CITIES OF CALGARY, EDMONTON AND LETHBRIDGE, MONTHLY, 1946—IN QUARTS

Area	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Calgary	1,279,684	1,213,758	1,359,826	1,308,756	1,356,723	1,262,131	1,293,452	1,253,785	1,219,265	1,188,528	1,193,710	1,207,825
Edmonton	1,515,843	1,452,220	1,539,692	1,616,721	1,657,101	1,674,601	1,552,629	1,516,704	1,480,269	1,512,002	1,489,910	1,507,830
Lethbridge	220,359	213,111	239,722	237,315	239,178	222,039	242,144	242,880	220,517	228,956	249,726	251,000

TABLE 3

CONSUMPTION OF FLUID CREAM IN THE CITIES OF CALGARY, EDMONTON AND LETHBRIDGE, MONTHLY, 1946—IN QUARTS

Area	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Calgary	120,078	115,079	129,835	121,483	123,911	127,991	134,015	131,634	121,744	128,219	131,292	134,300
Edmonton	141,278	132,419	139,891	132,093	130,416	134,256	135,455	136,727	128,226	138,217	140,549	143,327
Lethbridge	14,605	13,328	15,090	15,316	15,474	14,678	15,448	16,002	15,383	16,909	16,020	16,500

TABLE 4

FLUID MILK CONSUMPTION IN CITIES OF EDMONTON, CALGARY AND LETHBRIDGE, 1942-1946—IN QUARTS

Area	1942	1943	1944	1945	1946
Calgary	11,967,311	14,026,370	14,883,161	14,718,119	15,138,343
Edmonton	11,763,647	15,831,989	16,585,994	17,046,833	18,515,522
Lethbridge	1,503,589	1,989,889	2,203,781	2,333,010	2,806,947
Totals	25,234,547	31,848,248	33,672,936	34,097,962	36,460,812

TABLE 5

FLUID CREAM CONSUMPTION IN CITIES OF EDMONTON, CALGARY AND LETHBRIDGE, 1942-1946—IN QUARTS

Area	1942	1943	1944	1945	1946
Calgary	949,838	1,019,296	1,263,110	1,315,726	1,519,581
Edmonton	934,799	1,288,231	1,467,631	1,478,393	1,632,854
Lethbridge	117,780	129,419	157,789	159,958	184,753
Totals in Quarts	2,002,417	2,436,946	2,888,530	2,954,077	3,337,188
Totals in B.F. equivalent, lbs.	752,292	728,347	820,484	759,458	837,013

TABLE 6

FLUID MILK PURCHASES BY CALGARY, EDMONTON AND LETHBRIDGE DISTRIBUTING PLANTS, 1942-1946

Area	1942	1943	1944	1945	1946
Calgary	37,971,410	41,437,886	46,363,477	46,982,078	48,220,977
Edmonton	31,392,466	40,097,468	43,135,693	43,673,442	51,149,051
Lethbridge	*5,398,593	†11,776,105	†10,623,093	†9,534,137	‡6,724,565
Totals	74,762,469	93,311,459	100,112,263	100,189,657	106,094,593

*Includes Milk for Airport. †Includes Milk for Airport and Prisoner of War Camps. ‡Lethbridge City Milk only.

TABLE 7

SUMMARY OF MILK AND CREAM PRODUCERS OPERATING ON DECEMBER 31st, 1946, UNDER BOARD OF PUBLIC UTILITY COMMISSIONERS' LICENSE

Controlled Area	Milk	Cream	Total
Calgary	215	31	246
Camrose	10	1	11
Crow's Nest Pass	10		10
Edmonton	296	35	331
Lethbridge	33		33
Medicine Hat	35		35
Ponoka	2		2
Red Deer	31	5	36
Totals	632	72	704

TABLE 8

SUMMARY OF MILK AND CREAM DISTRIBUTORS OPERATING ON DECEMBER 31st, 1946, UNDER BOARD OF PUBLIC UTILITY COMMISSIONERS' LICENSE

Controlled Area	Milk	Cream	Total
Bowden	1		1
Calgary	5	3	8
Camrose	2		2
Crow's Nest Pass	2		2
Edmonton	15	1	16
Lethbridge	2		2
Medicine Hat	5		5
Ponoka	1		1
Red Deer	2		2
Totals	35	4	39

TABLE 9

MILK AND CREAM PRICES EFFECTIVE DECEMBER 31st, 1946, FOR ALBERTA CONTROLLED AREAS

Area	MILK		CREAM		
	Price to Producers per 100 lbs. (3.6% B.F.)	To Consumers per Quart	To Producers per lb. B.F. (Minimum)	To Consumers 10% Sub-standard per Pint	To Consumers 18% B.F. per Quart
Bowden	$3.03	13c	$ .45		$ .29
Calgary	3.35	14c	.45	$ .18	.32
Camrose	3.03	13c	.45		.29
Crow's Nest Pass	3.49	15c	.45	.18	.32
Edmonton	3.35	14c	.45	.18	.32
Lethbridge	3.30	14c	.45	.18	.32
Medicine Hat	3.30	14c	.45	.18	.32
Ponoka	3.03	13c	.45		.29
Red Deer	3.03	13c	.45		.29

TABLE 10

COMPARISON OF PURCHASE AND RESALE PRICES OF MILK AND MILK PRODUCTS, AS EFFECTIVE DECEMBER 31st, 1946

Province	City	PURCHASE PRICE	RETAIL SALE PRICES			
		Per 100 lbs. Basis 3.6% B.F.	Milk per Qt.	Cream per Pt.	Buttermilk per Qt.	Chocolate Dairy Drink per Qt.
British Columbia	Vancouver	$3.05	14c	16c (8.5 to 9.5%)	12c	15c
Alberta	Edmonton	3.35	14c	18c (10%)	13c	15c
Saskatchewan	Regina	3.08	14c	17c (10%)	14c	16c
Manitoba	Winnipeg	3.23	14c	18c (10%)	12c	16c

REPORT OF THE POULTRY COMMISSIONER

(C. W. TRAVES)

The poultry industry of Alberta remained on a firm basis and continued to show progress during 1946. The post-war demand for eggs in the shell, dried egg powder, frozen egg melange and poultry meats was stronger than during the war period, and shows every indication of continuing for some years at least.

Mr. J. A. Peacock, Director of Egg Supplies, British Ministry of Foods, was again brought to Canada to study the possibilities of obtaining an increased supply of Canadian egg products, especially fall and early winter fresh shell eggs. Mr. Peacock definitely committed for 450,000 cases of thirty dozen each, and for 1,000,000 if we could supply them, at 2c per dozen above the prices that prevailed from September 1st to December 15th for the 1944 contract. The time limit for the premium was extended, as well, to January 30th. In addition, the British Ministry agreed to take all the shell eggs for storage that we could produce after January at 1c per dozen over the 1945 contract prices. Added to the shell egg commitments, Britain will again take all the dried egg powder that Canada can produce.

Besides the egg products, the British Ministry of Foods agreed to take some Canadian poultry meats, although at the present time these are still on the luxury lists. Some chickens, fowl and turkey meats were shipped, and each succeeding year indicates a very considerable increase in the volume of poultry meats to be contracted for.

Prior to the war Britain imported large quantities of frozen egg melange, mostly from China, for the baking and allied trades. She is again coming into the market for this egg product, and Canada is in an excellent position to contribute to Britain's egg melange requirements.

The domestic market for poultry products again showed exceptional strength, and indications are that these products are selling on their merits and not so much due to meat rationing as was generally believed to be the case a year ago. However, it is recognized that the two meatless days each week are undoubtedly adding strength to the domestic demand.

A careful review of the world poultry supply and market conditions leads us to believe that if Canadian producers and dealers will cater to the requirements of the British markets, that we can expect a poultry industry on a reasonable sound economic basis for quite a few years. Contracts have been signed for all we can produce up to January 20, 1949, and it is expected that the 1950 and 1951 contracts will be signed in the very near future.

Egg Production.

The over-all egg production was down a little from 1945, but this was expected as the 1945 report showed chick production and purchases for 1945 slightly lower than for 1944. However, Alberta poultry producers continued to purchase more early chicks and to give these as well as the laying flocks more efficient care, with very favourable results.

Alberta stands forth in laying bird population of the provinces of Canada and second in volume of production. This is very creditable indeed, especially as we produced very heavily towards the fall and winter fresh shell egg contracts, these being the eggs that bring the highest premium prices.

Britain has stressed the need for more fall and winter fresh shell eggs if we are to hold our favoured position for storage shell eggs, dried egg powder and possibly for frozen egg melange. Although Alberta producers have made a very excellent showing in fall and winter production, there is room for improvement, and all who are equipped to handle February and March chicks should purchase them during those months.

Previous reports have pointed out the steady improvement made each year in our handling facilities. This improvement has continued during 1946, and we can safely say that as far as registered egg grading stations are concerned, Alberta is one of the bright spots of Canada.

The total volume of eggs during the first nine months of 1946 was slightly below that of the previous year, largely due to the reduction in chick hatches and purchases. This was partly offset later in the year due to the heavier pullet production from the increased hatchings of this year.

Dressed and Live Poultry.

With no surplus stock in storage and a very heavy domestic demand, as explained earlier, the poultry meat market was entirely a domestic one during 1946. True, a small shipment was sent to Britain more as a "token shipment" and cannot in any way be considered as export. The rationing of other meats along with lack of storage stocks necessitated refusal of export permits to the U.S.A. during 1946.

This year saw earlier and heavier marketings of fowl and chicken than had been the practice in other years. This was good business from the producers' standpoint, as it meant a saving on high priced feeds and made laying house accommodation available for the pullets when needed. For the dealers, it meant that there was not the usual congestion that had prevailed in previous years when an attempt was made to market large numbers of fowl and chicken, alive as well as dressed, at the same time that the turkey crop was being marketed.

Due to the tremendous demand for Xmas poultry, especially turkeys, buying was extremely keen. As far as we can estimate the 1946 marketings were about the same or slightly higher than for 1945, but as so many small lots were shipped without inspection, accurate figures are not available.

Undoubtedly the demand for turkeys was such that producers on the average received higher than legitimate market prices. Buying was so keen that over-grading to producers was a common practice and, in many instances, paying prices were such that dealers frankly admitted that they lost money on the 1946 deal as ceilings controlled to a major extent their selling prices.

Many of our wholesale poultry dealers, especially in the larger centres, have installed up-to-date premises with mechanical scalding tanks, plucking machines, etc., and are giving efficient rail grade service to the producers. Most of these plants have mechanical

refrigeration with sharp freezing, storage and holding rooms. Progress along poultry handling lines, as well as for eggs, has been very gratifying.

Flock and Hatchery Approval Regulations.

Alberta was represented at the Dominion-Provincial Pullorum Conference held at Hull, Quebec, the first week in April. British Columbia, Saskatchewan and Manitoba have followed Alberta's lead, and are using the Whole Blood method for testing for Pullorum disease in poultry. The same method is used very extensively in Ontario and Quebec, while the Maritime Provinces stayed with the Tube method. However, this fall New Brunswick asked for a loan of a set of our equipment, and we understand that the three Maritime Provinces are all using it and are seriously contemplating changing over to the Whole Blood test. This is particularly gratifying to Alberta, where this method of testing was "pioneered" against very strong outside opposition.

There was, as usual, quite anumber of new entrants for approval, but, as shown by Table I below, we have the reaction to the pullorum test well under control.

TABLE 1

Year	Method of Testing	No of Flocks	No. of Birds	% Reaction
1930-31	Tube Agglutination	148	18,608	20.2
1931-32	" "	232	31,177	12.9
1932-33	" "	188	26,381	8.6
1933-34	" "	205	33,295	7.3
1934-35	" "	645	104,858	11.2
1935-36	" "	615	94,536	5.5
1936-37	" "	815	136,228	5.5
1937-38	" "	677	108,908	4.8
1938-39	" "	534	92,355	4.51
1939-40	Whole Blood	437	80,927	5.1
1940-41	"	412	91,868	2.6
1941-42	"	510	120,198	2.12
1942-43	"	460	120,841	0.35
1943-44	"	664	165,903	0.716
1944-45	"	694	198,877	0.736
1945-46	"	632	186,992	0.798

NOTE: The above reaction is on the first test. Some provinces show a lower reaction, but these are on the final tests where over 2% reaction required a second and sometimes third and fourth retests.

Incubator capacity and chick sales showed very substantial increases, while the supply of local hatching eggs decreased slightly due to fewer birds being tested. This meant a very good season for outside shippers as well as for the Alberta approved flock owners. Some of the hatcherymen will have to learn that if they intend to expand their hatchery capacity or open new hatcheries that it is their responsibility, not that of the government, to find the valume of hatching eggs required.

TABLE 2

Year	Egg Setting Capacity	% of 1936	Chicks Hatched	% of 1936
1936	924,300		1,028,881	
1937	1,036,526	112 1	1,068,056	103.8
1938	1,033,906	111.9	1,171,082	113.8
1939	1,052,759	113.9	1,394,194	135.5
1940	1,203,368	130.2	1,538,597	149.7
1941	1,269,117	137.3	1,938,052	188.4
1942	1,407,280	151.2	2,631,468	255.8
1943	1,408,070	152.3	3,607,372	350.6
1944	2,102,434	223.1	5,476,476	532.3
1945	2,208,938	238.9	4,917,366	477.9
1946	2,445,750	264.6	5,711,423	555.1

The sale of R.O.P. chicks increased over 1945 by 68.58% and of R.O.P. Sired chicks by 83.73%.

Turkey Approval and Banding Policy.

There has been a considerable increase in the interest being shown by the hatcherymen and turkey breeders alike in demand for commercial poults. The demand for poults, and consequently for turkey hatching eggs, is far in excess of the supply. Although poults hatched in 1946 were 49,959 as compared with 10,319 in 1945, or an increase of 384.1%, a large percentage of turkey hatching eggs and poults were imported, but these along with the local supply did not begin to fill the demand. We expect a very healthy increase next year.

As stated in previous reports, the three prairie provinces have been working closely together on their turkey policies. We are pleased to report that other provinces are considering turkey banding policies based largely on our policy, which was the first one drawn up in Canada.

Toronto Royal Winter Fair.

The poultry show at the Toronto Royal is considered by many leading exhibitors to be the best poultry show on the continent, and by some to be the best in the world. Prior to the discontinuing of the Royal, due to war emergencies, Alberta poultry and turkey exhibitors had always made a very creditable showing with their exhibits, in spite of the long distances that we have to assemble our exhibit and ship it to the Royal.

Recognizing the contribution that the water fowl, pigeon and rabbit breeders have been making to our Alberta shows in the past, the Alberta Poultry Federation included entries from these breeders for the first time with the 1946 exhibit. They made a very creditable showing.

Considering the shortness of the notice to get the exhibit together, prize lists and entry forms being received less than two weeks before date of entry, we were able to get together a very satisfactory exhibit and made a very good showing. For instance, twenty turkeys were sent, and fifteen of these were in the money.

ALBERTA PRIZE WINNING EXHIBITORS

Standard Bred Bronze Turkeys: V. R. Hallam, Brooks—First, adult tom; first, yearling tom; fourth and seventh, young tom; second and third, yearling hen; third and sixth, pullet.

Broad Breasted Bronze Turkeys: V. R. Hallam, Brooks: First and second, young tom; fifth, yearling tom.

White Holland Turkeys: Mrs. Vera Gosset, Stony Plain—First, yearling tom; first and third, yearling hen.

Bourbon Red Turkeys:
Carl Soderstrom, Armena—Second, yearling tom.
Lloyd Pickard, Acme—Fourth, yearling tom.

Geese: W. J. Pickard, Wetaskiwin—First, African gander; third, Chinese gander.

Ducks: W. J. Pickard, Wetaskiwin—Third, Muscovy drake; fourth, Pekin duck.

S.C. Black Minorcas: George Hurst, Calgary—Fourth, cock.

Blue Andalusian: George Hurst, Calgary—Second, hen.

S.C. Rhode Island Red:
James, Smith, Calgary: Eighth, cockerel.
R. Adams, Edmonton—Fourth and sixth, pullet.

R.C. White Leghorn: Gilbert Young, DeWinton—Second, cock; second and third, cockerel; third, hen; first, trio.

Old English Game Bantams: R. C. Nivon, Lethbridge—Fourth, cock.

Rabbits: B Johnson, Calgary—Second and third, New Zealand Whites.

Provincial Poultry Plant.

Each report we have been able to emphasize steady progress at the Poultry Plant, and this year is no exception. Not only is the plant showing steady progress as one of the finest demonstration poultry farms in Canada, but the splendid breeding work with the Single Comb White Leghorns and Bronze Turkeys has about reached its limit from a quantity standpoint unless additional housing space is provided. The fact of the matter is that some of the older buildings now in use will soon have to be replaced or the present high standard contribution to the poultry industry of Alberta will have to be curtailed.

With the chickens we only have the one breed, S.C. White Leghorns. With some additional space we could carry on the present high standard breeding programme with one of the heavier or dual-purpose breeds.

The 1945-46 R.O.P. (Record of Performance) entry at the Poultry Plant again proved to be one of the outstanding entries for all breeds in Canada. This is all the more significant when we consider that the Poultry Plant entry is the largest representative entry of any of the larger breeders in Canada, 85.645% of the pullets kept on the premises. Had we made a smaller entry and concentrated on just a few families, we might have made a more spectacular showing, but our policy has been to breed up the maximum number of families in order to make the maximum contribution to the Approved Leghorn Flocks of this province, in this way contributing the maximum amount of good to our Alberta chick buyers. However, with the large representative entry, we were still well up on the official lists from Ottawa.

Of the many hundreds of sire families in Canada, the Dominion Egg and Poultry Market Report, November 8, 1946, published 44 that had an average family production of 225 eggs and over for the laying year. Provincial Poultry Plant sires were sixth and seventh on this list.

The November 15th Market Report listed the 40 top R.O.P. Breeders' Results for the Record Year 1944-45 for all breeds, and the Poultry Plant was twelfth for all breeds in Canada. Remember that this showing was made with one of the largest representative entries, not a few select families.

The following tables illustrate the excellent breeding accomplished at the Poultry Plant:

TABLE 3

RECORD OF PRODUCTION

	1945	1946
Birds Entered	495	695
Birds Certified	401—81.1%	568—81 7%
Average Production	224	221
Average Egg Weight	25.2	25.4
Average Body Weight	4.1 lbs.	4.4 lbs.
Mortality	12.3%	10%
Livability	87.7%	90%

TABLE 4

PROGENY TEST

	1945	1946
Males Entered	12	11
Males Passed	5	11
Females Entered	50	75
Females Passed	39—78%	58—77.3%

For the 1945-46 production year, 27 birds laid over 300 eggs each.

TABLE 5

OUTSTANDING MALES AND FEMALES SHOWING THEIR FAMILY RECORD

MALES

Band No.	No. of Daughters	Production	Egg Weight	Livability
A-170	85	244	24.3	95%
B-3207	26	244	25.3	100%
C-4289	77	242	25.5	95%

FEMALES

B-7348	17	257	24.4	100%
B-7329	10	241	24.7	100%
A-147	13	247	25.4	100%
C-7258	10	259	26.2	100%
C-7340	13	243	26.2	100%
C-7130	15	252	25.1	100%

(A-147 above was 6 years old).

TABLE 6

THREE SAMPLES OF THE PROGENY TEST OF HIGH QUALITY MATINGS

Sire, D-32234; Dam, C-7340; 13 Daughters

Band No.	Production	Egg Weight	Band No.	Production	Egg Weight
E-4615	204	25 1	E-4790	279	27.1
4619	202	24.7	4810	262	26.1
4684	260	25.9	4873	294	26.6
4715	216	26.0	4891	280	26.9
4775	241	27.1	5080	295	25.3
4781	200	26.3	5143	202	26.9
4786	218	26.5			

Average Production, 243; Average Egg Weight, 26.2; No Mortality.

Sire, C-4289; Dam, C-7258; 10 Daughters

Band No	Production	Egg Weight	Band No.	Production	Egg Weight
E-4556	249	26.4	E-4769	262	25.6
4610	256	27.3	4843	272	25.5
4652	276	26.9	4925	253	26.8
4723	246	24.3	4943	248	25.1
4744	270	27.6	5098	262	26.0

Average Production, 259; Average Egg Weight, 26.2; No Mortality.

Sire, A-170; Dam, C-7130; 15 Daughters

Band No	Production	Egg Weight	Band No.	Production	Egg Weight
E-4538	255	26 2	E-4728	225	24.1
4580	171	24.8	4829	225	27.1
	(Not finishing year)		4848	210	26.5
4607	225	27.3	4928	284	24.6
4611	253	22.5	4940	308	22.2
4655	266	25.0	5006	286	24.8
4697	305	25.8	5019	269	26.3
4727	225	25.1	5100	270	23.5

Average Production, 252; Average Egg Weight 25.1; No Mortality.

A considerable amount of work was carried on with turkeys this year. The crossing of the Standard Bred and Broad Breasted strains of Bronze turkeys was continued with rather marked results. The meat type of the Standards was improved. Our work proves quite conclusively that our better turkey breedrs can carry on this work on a large scale to the betterment of type and at the same time maintain the medium weights that are in most popular demand and bring the premium prices.

Additional work was carried on with confinement rearing of turkeys, and will be continued through the breeding and rearing seasons of 1947. Valuable information of sufficiently conclusive nature was obtained for the preparation of a leaflet on this subject.

Artificial insemination of turkeys was also tried in a limited way. The results were such that a rather comprehensive trial during the 1947 breeding season is justified, and the plans are now in operation for additional artificial insemination work, not only at the Poultry Plant, but possibly at one or two farms.

The usual labour difficulties prevailed, and we can only repeat what we said in the 1945 Annual Report: "We are of the opinion that suitable living accommodation and a better rate of pay must

prevail for the help on such government farms before we can expect to obtain and hold for any length of time the class of help that can be entrusted to carry on the types of work on such a farm as the Poultry Plant."

When we stop to consider that during 1946 we sold from the quality breeding stock mentioned above, 1,912 wing banded cockerel chicks and 574 mature breeding cockerels, as well as mature hens, for breeding purposes to our Alberta R.O.P. and approved flock owners for stock improvement purposes, besides the experimental and demonstration work carried on, we cannot estimate in dollars and cents the value of the Provincial Poultry Plant to the poultry industry of Alberta. Every effort must be made to keep the plant and equipment up to efficient standards. Better than average farm help must be obtained, and this help should have better than average farm wages and living conditions if they are to be employed and kept on the job.

Again Mr. W. E. Hughes, Poultry Plant Manager, deserves high commendation for the splendid results obtained.

Staff Changes.

Mr. H. E. McDaniel, Poultry Fieldman and Inspector, retired August 1st after 16½ years of efficient service to the Poultry Branch and to the Department.

Mr. E. Kitchen from Winnipeg, Manitoba, joined the staff in July. Mr. Kitchen took the two-year Poultry Diploma Course at the University of Manitoba.

Peace River Block.

Last year we were able to give part time service to the Peace River Block, but this year, due to the fact that Mr. Carleton's services were only available for the flock approval work and other members of the staff were not available to go up there, this area was neglected. It is expected that during 1947 hatcheries in this block will sell at least 200,000 chicks, and in addition to this many thousands will be shipped in from outside hatcheries. There will be a lot of home-hatching as well, with the result that requests for service in this area are increasing, and it is essential that we offer to give at least par time service.

It is very noticeable that grading station set ups and supervision under the present regulations is lacking, due to the fact that the Dominion Inspection Services are not sufficiently staffed to give the necessary supervision.

REPORT OF DIRECTOR OF EXTENSION

(R. M. PUTNAM)

General.

It is gratifying to report that during 1946 a start was made to improve the extension programme, including the training of staff members. Provision was made for the employment of two Assistant District Agriculturists, who in addition to assisting with the work of the offices would secure in-service training to fit them as District Agriculturists at a later date. Two member of the Extension Service staff were granted leave-of-absence to attend an Extension Short Course at Fort Collins, Colorado, in July, and during the District Agriculturist Conference in December a great deal of time was spent in reviewing the objectives, organization and methods of the Extension Service. Plans are being made to follow up what has been started this year. The size of the extension staff, the multiplicity of duties and the importance of this work require that greater attention be given to its planning and organization. Co-ordination of the activities and programmes of the various branches is necessary if the service of the field staff is to be of maximum value. Such co-ordination and the extension programmes resulting therefrom should be planned on Provincional, regional and local levels. The necessity of providing training for the staff in extension work is recognized, and a programme is being considered to meet this need.

A number of staff changes occurred during the year. F. H. Newcombe was appointed Supervisor of District Agriculturists early in July to succeed W. S. Scarth, who resigned. B. T. Stephanson, Agricultural Engineer, resigned on June 30th to accept a position at the University of Alberta. A new District Agriculturist office was opened at Wetaskiwin, and an Assistant District Agriculturist was appointed at Vermilion. A number of other changes of District Agriculturist staff will be found in that section of this report. District Home Economists were appointed at Grande Prairie and Camrose.

The Department assumed responsibility for the agricultural programme in the Special Areas on July 1st. An Order-in-Council transferred responsibility for carrying out agricultural programmes within the Areas, together with Mr. K. H. Walker, Agricultural Fieldman, who subsequent to the transfer became the District Agriculturist for the Special Area at Youngstown, from the Department of Lands and Mines to the Department of Agriculture.

The Dominion-Provincial Farm Labour Programme was continued throughout the year. Although the farm labour situation improved considerably during 1946, it was nevertheless necessary to organize movements of men to Ontario, women to British Columbia, and harvesters to the Prairies from Eastern Canada.

Agricultural Service Boards in 22 municipalities have provided District Agriculturists with a local contact which in many cases has been of distinct advantage in carrying out their extension activities.

We are again pleased to record our appreciation of co-operation and assistance from many sources and agencies. In particular, we

wish to mention the University of Alberta and the several services of the Dominion Department of Agriculture.

Short Courses, Field Days, Demonstrations and Meetings.

The popularity of meetings continues. In addition to their primary purpose of providing a means for discussion of topics relating to agriculture or home economics, they furnish an opportunity for people to visit and exchange ideas. While most meetings are of a general nature, six bacon shows were held in February, nine swine field days were conducted during the summer, and 13 harvesting machinery short courses were held in July and August.

The number of meetings reported by District Agriculturists and District Home Economists was 2,532, with a total attendance of about 122,000, compared to 2,434 meetings and attendance of about 114,000 in 1945.

Agricultural Engineering.

B. T. Stephanson, Extension Agricultural Engineer, resigned on June 30th to accept a position at the University. The position remained unfilled for the balance of the year, although arrangements for a successor to begin work in January were completed.

Farm engineering topics were popular during the short courses in January, February and March, and a series of farm machinery field days held in June were well attended. For the latter activity the assistance of Messrs. F. F. Parkinson, School of Agriculture, Olds, J. J. Patterson, School of Agriculture, Vermilion, and J. K. MacKenzie, Institute of Technology and Art, Calgary, was available. The use and adjustment of tillage equipment, especially one-way discs, was the main topic discussed at these field days.

During July and August, 13 harvesting machinery short courses were held. Attendance and interest was good at these short courses. The machinery necessary for them was provided by the Alberta Wholesale Implement Association, to whom appreciation is expressed for assistance.

Interest in rural electrification, farm buildings, water systems, sewage disposal, etc., continued high as indicated by letters forwarded to the Department and in discussions at meetings. There is greater interest in rural housing. Besides considerable building of new homes, renovating, remodelling and redecorating of older premises is taking place. The Extension Service hopes to give more attention to this field during 1947.

Publications and Statistics.

The use of publications as an extension method remains popular. Bulletins, circulars, leaflets, plans and other forms of printed material are printed and distributed in large quantities. It is estimated that the number distributed in 1946 was about 240,000. Five new bulletin or leaflets were printed, and 22 publications were reprinted or revised.

New bulletins and reprints during 1946 were:

Circular 5—Use of Fertilizers in Alberta (revised).
Circular 7—Creeping Red Fescue (revised).
Bulletin 9—Farmstead Planning (new).
Leaflet 25—Pullorum Disease in Chicks (revised).
Leaflet 28—Tuberculosis of Poultry (revised).
Leaflet 29—External Parasites of Poultry (revised).
Leaflet 30—Internal Parasites of Poultry (revised).
Leaflet 31—Coccidiosis (revised).

Leaflet 32—Respiratory Diseases of Poultry (revised).
Leaflet 36—Disorders of the Cloaca and Vent (reprint).
Leaflet 37—Fowl Paralysis and Leukemia (revised).
Leaflet 54—Poultry Catching Crate (reprint).
Bulletin 57—Salad Bowl (reprint).
Leaflet 62—The Need and Use of Commercial Protein Mineral Supplements in Poultry Feeding (revised).
Circular 63—The Selection and Seeding of Grasses and Legumes in Alberta (revised).
Circular 68—Wild Rose Hips for Vitamin C (reprint).
Bulletin 70—Electricity on the Farm (revised).
Circular 71—The Control of Wild Oats in Alberta (reprint).
Bulletin 72—Preserve by Freezing (reprint).
Bulletin 74—Lunch Boxes and Hot School Lunches (reprint).
Bulletin 75—Vegetables make the Home Plate (new).
Circular 76—Canada Thistle and Sow Thistle (new).

Special Leaflets:

Horticultural Varietal Zonation May (revised).
Alberta Field Crop Varieties (revised).
Combined Kitchen Stool and Chair (new).
Entertainment Refreshments for Home and Club (revised).
Build a Dumb Waiter (new).

Plans:

Single and Double Deck Poultry House (reprint).
Hog Breeding Crate (new).
Self-Feeder for Young Pigs (new).
Typical Layout for Pig Brooders (new).
Squeeze Gate and Shipping Crate for Hogs (new).
Hog Loading Chute (new).
Ideas for Hurdles, Feeder, etc. (new).
Hog Feed Rack and Trough (new).
Sheep Feed Rack (new).

Periodic publications are desirable for the release of timely and seasonable information and for the purpose of discussing current problems.

"Agricultural Notes" are published weekly for the use of the press. Current agricultural topics are covered in the "Agricultural Notes". E. B. Swindlehurst acted as editor throughout the year.

"Agricultural Information" is prepared under the supervision of R. E. English. It is a publication which appears about once a month, and which deals in a fairly comprehensive way with a single subject. This publication is prepared primarily for the use of officials of the Department. The subjects covered in "Agricultural Information" during 1946 were the following:

1. "Conservation—Canada's Richest Adventure."
2. "Notes for Beekeepers."
3. "The Dairymen's Convention 1946 Producers' Section."
4. "The Dairymen's Convention 1946 Manufacturers' Section."
5. "Farm Business Agreements for Father and Son," first installment.
6. "Farm Business Agreements for Father and Son," second installment.
7. "Farm Business Agreements for Father and Son," third installment.
8. "The Inflation Situation in the United States."
9. "Returns on Hog Production in Alberta."
10. "The District Approach to Soil Conservation in South Australia."
11. "The Present Position of Danish Agriculture."
12. "Farm Wage and Profit Sharing Agreements."
13. "Alberta Beekeepers' Association."
14. "Wold Food Supply," first installment.
15. "World Food Supply," second installment.
16. "World Food Supply,' 'third installment.

The Agricultural Conditions Report, which is prepared ten times during the crop season, retained its popularity due primarly to the importance of food production in a world where scarcity obtains and actual famine occurs.

The Junior Farm Club Bulletin was published quarterly in the interests of the Junior Club programme.

Agricultural statistics are compiled from material collected by the Dominion Bureau of Statistics. The work of the Department during 1946 was not materially altered. Production figures were released from time to time, and certain statements were prepared to indicate trends and achievements in the Province. The Dominion Bureau of Statistics held an Agricultural Statistics Conference in Ottawa in April for the purpose of discussing the whole situation and to set up a better service for the future.

Radio.

Radio broadcasting has the dual advantage of disseminating information over a wide area, and of making such information quickly available at the time when it will be of the greatest use.

Through the medium of the Farm and Home Forum, the Faculty of Agriculture of the University of Alberta and the Alberta Department of Agriculture bring to rural listeners a fifteen-minute programme three times each week to furnish information on topics relating to the farm and home.

Every Monday, Wednesday and Friday at 8:15 p.m., the Alberta Farm and Home Forum is heard from stations CKUA, Edmonton, and CJCJ, Calgary. Talks, interviews, discussions and timely topics are provided by members of the University Faculty, by the Department, and by others interested in the progress of agriculture in this Province. E. B. Swindlehurst arranges the programmes, and was responsible for the preparation of the Radio Notes. Officials of the Department delivered 87 talks during the year.

Homemakers' Chats, which are heard twice each month from the Department of Agriculture's Home Economics Service, have met with encouraging response from Alberta housewives. On the first Monday of each month the Junior Club of the Air is presented. With the co-operation of the Supervisor of Junior Activities, G. S. Black, members are advised of the work of other clubs and are kept posted on club projects and activities.

Radio talks require a different type of presentation from that of either the lecture hall or the public meeting. A growing realization of this is evident among those taking part in the programmes, and all are striving to adapt their material to these special requirements and to convey their information in the most attractive manner possible.

Agricultural Fairs.

Seventeen fairs were held in 1946, compared with 16 in 1945. The following fairs operated:

Class "A"—Calgary and Edmonton.

Class "B"—Lloydminster, Red Deer, Vegreville, Vermilion.

Class "C"—Benalto, Didsbury, Donnelly-Falher-Girouxville, Lousana, Olds, Priddis-Millarville, St. Paul, Warspite-Waskateneau, Westlock, Wildwood and Willingdon.

The year 1946 was another successful one for most fairs. Attendance was good and the number of entries varied little from 1945. Camps for boys and girls were conducted by the Class "B" fairs for the purpose of interesting the younger generation in fair activities.

Assistance to fairs was continued on the same basis as in previous years.

There is a noticeable trend at most fairs to make the agricultural section of greater value and interest to the public. Several fairs now use public address systems to inform spectators of judging results and other interesting facts. Seats around the judging ring are also being furnished, much to the delight of the onlookers.

Several fairs dormant for the last few years are showing interest in reviving their activities. There have also been inquiries about a fair from districts where no fair has been held for many years.

Farm Labour

A shortage of farm labour continued in 1946. Although the situation improved over the previous year, farmers could not secure sufficient trained help to meet their needs. A number of factors may account for this condition. In the first place, commercial and industrial development since the war has been extensive, creating a huge demand for labour. The lumbering and construction industries have been especially attractive to men who might otherwise take farm work. Secondly, the retirement of older farm operators, delayed because of the war, is reducing the number of people on the farms. With alternative opportunities available at good wages, the long hours of farm work are not attractive to many prospective farm workers, and the fact that few farms have accommodation for married couples forces the latter to seek other means of making a living.

1.—*Placement of Labour.*

Placements through the Farm Labour Service during the year totalled about 5,500 workers. Of this number, about 2,400 were local harvesters and 1,700 were Eastern harvesters.

2.—*Western Farm Workers.*

At the request of the National Employment Service, the Farm Labour Service assisted in recruiting 659 farm workers, who were sent to Ontario to assist with haying and early harvest. The men left Alberta the latter part of June and returned by August 31st.

3.—*B. C. Fruit Pickers.*

The Farm Labour Service assisted the National Employment Service in recruiting 437 girls and women for fruit picking in British Columbia. The movement extended for about a month, June 15th to July 10th.

4.—*Eastern Harvesters.*

It was again necessary to import harvesters from Eastern Canada. A total of 1,376 harvesters came direct from the East to points in Alberta, while about 350 were reforwarded from Manitoba and Saskatchewan when work in these Provinces was completed. The same arrangements for transportation as obtained in previous years were again in operation. The excursion was generally successful, but owing to bad weather, earnings of the harvesters may not have been as high as in former years.

5.—*Local Harvest Help.*

Local harvest help again provided assistance. When harvesting was finished in the south and eastern part of the Province, men were moved to other districts needing their help. The number was not large, amounting to about 150 harvesters.

6.—*Prisoners of War.*

German prisoners of war assisted as farm labourers until the end of the crop season in 1946, when they were removed and returned to England for repatriation. The prisoners had become a pool of readily available labour, especially in the sugar beet growing area, and their absence in 1947 is likely to create a labour problem in this industry.

7.—*Polish Veterans.*

About 500 Polish veterans were distributed in Alberta between November 20th and December 15th. These veterans were a portion of a larger group brought to Canada by the Dominion Department of Labour to help meet the farm larbour shortage. The veterans were contracted to farmer applicants and agreed to remain in agriculture for two years. Although few of the men could speak English, reports at the end of the year indicated that they were reasonably satisfactory workers and were expected to improve as they gain experience on Alberta farms.

8.—*Movement of Harvesting Equipment.*

From Alberta 41 harvesting units journeyed into the United States in 1946 to assist with the harvest. Some of the outfits went as far south as Arkansas, and almost without exception the operators reported a successful trip. It is estimated that Alberta outfits combined about 46,000 acres of crop in the United States, and trucks hauled nearly 700,000 bus. of grain. The arrangement under which the units entered the United States is reciprocal, but few United States outfits entered Alberta as adequate equipment was available.

Only three harvesting outfits were given assistance to move in Alberta.

Women's Extension Work

The services offered by this Department for women were developed further during the year under the direction of Mrs. V. G. Macdonald, Supervisor of the Home Economics Division. A special effort was made to meet the needs of homemakers who face peculiar problems because of existing conditions.

Most farm families have had increased earnings but increasing demands have been made upon small and large family incomes. Necessities have cost more than formerly, while taxation has decreased only slightly since the war. Rising prices of food, clothing and household furnishings have had the effect of lowering the real income of those receiving fixed salaries. Despite reported increased production of goods, shortages continue, due to increased demand and overseas shipments. Longer periods of service from clothing, furnishings and equipment, with salvaging of all that has usefulness, must continue. Using the abilities and skills of the family members to produce food and recondition possessions is a part of today's pattern in urban and rural homes. For the present, at least, funds are being built up which may serve as a backlog in the years ahead. However, manufacturers and distributors are preparing consumers for a market that makes the luxuries of an earlier period seem primitive indeed. Convenience in homes, synthetic fabrics, new forms of transportation and countless other inventions are described. After living in a period of scarcities and making worn articles serve, the urge to buy will

need little encouragement. There may be spending out of all proportion to need and there is the possibilty of inflation once ceiling prices are abandoned. What will happen will depend upon the understanding of consumers on every economic level and how they respond to freedom in using their savings and credit. At no point is sound and widespread education more important. Information which will guide consumers in their buying of new products, materials and equipment and in the use and care of these is imperative.

The existing shortage of dwellings has given impetus to scientific developments which bid fair to usher in a new day in housing, both for urban and rural areas. Uufortunately, many new home builders, particularly in rural areas, are not aware of even the minimum standards for homes and in their anxiety to complete the house, irrepairable mistakes are made. A great many more old homes are being remodelled to meet the need for home conveniences and comfort. There is a demand for information regarding water systems, use of electricity, heating systems and insulation, easy-to-clean floors, walls, and wood finishes, plans for adequate storage space and proper working surface heights, as well as arrangement of rooms, windows and doors which influence convenient arrangement of furnishings and equipment.

No consideration of conditions would be complete without mention of changes brought about within the family circle. The reuniting of families and the need for countless others to adjust to casualties and living in a new and different environment will tend to focus attention upon life goals which matter most, and ways of achieving them. The great increase in marriages means a larger proportion of families in the early stages of the family cycle at a time when wise financial management is imperative. Greater democracy in family living will undoubtedly be an essential part of the new era. The younger generation has proved itself more mature than the older generation believed possible. Now that they have returned to participation in home life their attitudes and contributions must be invited and accepted. Possibly more than ever before, there is a need for understanding within the family as to what constitutes happy family living, of the importance of helping each member achieve all that he is capable of becoming. Families need to be aware of the relation of growth and development to personal happiness and success.

The Home Economics extension program is keyed to meet these existing conditions and problems with which homemakers are confronted. Information is disseminated, discussions lead, and necessary skills developed through the following methods and activities of this branch.

Demonstrations, Homemakers' Clinics and Short Courses.

A total of 1,140 demonstrations were held at which the attendance was 39,900. In addition there were 142 other meetings such as field days, fairs, conventions and leaders' meetings. The main topics presented were as follows:

1.—*Kitchen Helpers*:

(a) Quick Methods for Cooking.

(b) Food Preservation and Storage—quick freezing, canning, home storage, etc.

(c) Table Setting and Service—etiquette at home and in public.
(d) Share with the Hungry—how we can help—better value for your food dollar, food economies, sugar and other ration savers.
(e) Other demonstrations such as Cooking for Harvesters, Food Fads, Facts and Fallacies, etc.

2.—*Yearnings Within the Family Earnings*:
Organized spending; features, characteristics and care of new household equipment, kitchen utensils, furnishings, textiles, etc.

3.—*If Women Were Builders*:
(a) Home Planning — ideas for modernizing, practical farm kitchens, closets and storage spaces.
(b) Interior Decorating—wall and floor finishes, new materials for home decorating, modernizing and repairing old furnishings, handicrafts for the home.

4.—*Homemakers' Clinics*:
(a) Sewing Clinics:
(1) Dress trimmings and finishes, makeovers, advanced sewing.
(2) Sewing for your home.
(3) Make your Suit Accessories.
(b) How To Do It—household repairs, care, cleaning of clothing, rugs and other furnishings, control of household insects, short cuts in home management.
(c) Hobbies that Pay.
(d) Look to Your Charm.

5.—*Miscellaneous Topics*:
(a) The Legal Status of Women—widow's relief, divorce laws, old age pensions, importance of wills, agreements, accounts and receipts, etc.
(b) What Women's Clubs Can Do.
(c) Electricity for the Farm Home—right lighting and wiring, choosing and using equipment suitable for the farm home, safety with electricity.
(d) The Science of Human Relationships—social and family relationships, how good a parent, wife, friend, neighbor are you?, practical psychology—living in harmony.

Homemakers' clinics continue to be increasingly popular, while the District Home Economists report that results from this method of extension are effective and gratifying. Through practice and actual experience the women are able to develop ability in judging values and standards related to home management and in performing various household tasks.

Short courses for women were held for one to three days in a number of centres during the winter months in conjunction with the agricultural short courses. With an average attendance of 75 to 100 women these short courses provided an excellent means of acquainting women not organized in clubs with the services of this Branch.

Radio Talks and Notes for Homemakers.

This year, 39 radio talks were given as well as short notes prepared each week for the radio section of the Agricultural Notes. The District Home Economist at Grande Prairie was offered free time on the Grande Prairie station for a women's programme. This programme is proving to be an excellent means of contacting women's groups in the north and of disseminating information. "Homemakers' Chats" is the theme title for the women's section of the Farm and Home Radio Forum, the second and last Monday of each month being reserved for this series.

Publications: The following new leaflets and bulletins were published: "Build a Dumb Waiter", "Labour-Saving Adjustable Ironing Board", "Iceless Refrigerator", "Vegetables Make the Home Plate", "Short Cuts to Home Sewing", directions for Diamond Socks, Bath Set, Leathercraft, and other home crafts, and a new "Christmas Folder".

Several other bulletins and leaflets were revised to meet changing conditions.

Approximately 78,080 bulletins and leaflets and 7,200 Dominion bulletins were distributed by this Division during 1946.

District Home Economists.

This year there have been eight permanent and two temporary District Home Economist offices. The location and personnel follow:

Lethbridge—Miss LaPrile Low.
Calgary—Miss Norma Hogg.
Red Deer—Miss Beatrice Anderson.
Stettler—Miss Priscilla Mewha.
Camrose—Miss Fay Rodney (appointed June 15, transferred to Vermilion School October 26).
Willingdon—Miss Rose Faryna (resigned July 15).
Westlock—Miss Ruth Whaley (appointed May 1).
Grande Prairie—Miss Pauline Hiatt (appointed June 1).
St. Paul—Miss Lillian Cheladyn (appointed June 1, transferred to Olds School October 22).

Instructresses in Home Economics at the Schools of Agriculture, Miss McIntyre, Miss Moseson and Miss Hawrelak, served as specialists during the summer months.

The continued shortage of trained and suitable women for staff made it necessary to transfer two of the staff to teach at the Schools of Agriculture and Home Economics and resulted in two permanent offices remaining closed. One District Home Economist, Miss Rose Faryna, resigned to teach in Calgary, and two others, Miss Esther Anderson and Miss Edna Alford resigned to be married.

The Home Economists in districts which have had this service for two or more years report that they cannot meet the demand for demonstrations and clinics, that requests often cannot be met for three to four months, and some requests received last summer are not yet filled.

Requests for assistance through home visits are increasing. These requests are for assistance with some definite problem such as the planning or remodelling of a home, home decoration, the proper use of new equipment, managing on a small income, war brides unfamiliar with rural homemaking problems, etc. Many real needs

and individual problems of homemakers can best be solved through these home visits. However, without cars this service is limited.

The problem of transportation is paramount. Much time is lost waiting for trains and buses, and longer hours of work are required than would otherwise be necessary. Train and bus schedules in some districts require leaving and arriving at headquarters at hours between 1:00 a.m. and 7:00 a.m. One Home Economist made 75 trips this year, during which she returned to headquarters later than 7:30 p.m., and 26 trips leaving headquarters before 7:00 a.m. Long hours and the added strain of carrying demonstration material is causing the District Home Economists some concern regarding their health and willingness to continue in extension work.

This year one District Home Economist was permitted to use a personal car on a mileage basis. From a careful record kept of the trips and work accomplished through having a car available to a District Home Economist, the following observations may be made: less time is required for planning and arranging schedules; more work can be done in less time, e.g., a trip by bus for meetings at Three Hills and Sunnyslope would have taken 2¼ days and arrangement for 18 miles transportation by someone in the district—when done by car this was accomplished in 1¼ days, and in addition four home visits were made and one school visit regarding their school lunch programme; Girls' and women's clubs are organized and schools are served which were formerly impossible to reach; improved quality in work done due to lessened strain and time available at headquarters for preparation of demonstration material; the scope of the service is extended.

The areas served by Home Economists will probably remain large due to the slow increase in staff. If they are to be adequately served, and the growing demands met, the Home Economists cannot afford to spend time in non-productive travel.

One District Home Economist has supervised the experimental varietal tests of fruits and vegetables for cold storage at the Provincial Horticultural Station at Brooks. Approximately 500 packages of frozen foods were prepared for testing, the results being of particular value to the growing industry of Frozen Food Lockers in the Province.

Supervision of Girls' Clubs and assistance to the club leaders is an important phase of the work of the District Home Economists. This programme, planned to provide rural girls instruction in home economics and experience in leadership and co-operation, is given the enthusiastic approval of parents and teachers as well as local and Provincial organizations. The applications for organization of these clubs far exceed the number it is possible to supervise with the present staff.

Monthly News Letters prepared by the Home Economists for their district women's organizations contain timely suggestions and information for women on a variety of homemaking problems, and are reported to be received with appreciation and interest.

Foods and Nutrition.

Since the appointment of Miss B. J. Lewis as Nutrition Specialist last year, it has been possible to give more consideration to a long term nutrition programme. Progress with the School Lunch Programme was evident when fifteen school superintendents reported 100% of their schools and sixteen others reported 50% of their

schools now have a school lunch programme of some kind, while sixteen more reported at least 50% with a hot lunch programme. An effort is being made to correlate the school lunch with the total nutrition programme so that it can be of lasting value through being a part of a broad plan for better health and better living, reaching beyond the school into the home.

A ten-day short course in Food Planning and Quantity Cookery was held at the Olds School of Agriculture, mainly to assist matrons of school dormitories with their food problems, although others interested in group feeding also attended. In most cases, the expenses of those attending were paid by the School Division. Many favourable comments on the value of such a course and suggestions as to its continuation have beeen received.

The organization of nutrition study groups as a result of a nutrition leaders training camp held in 1945, has proved the value and possibilities of this method of extending nutrition education. Changed and improved food practices are evident amongst the study group members. However, while many individuals are interested and willing to act as leaders, financial aid is necessary for them to attend a leaders' training course.

Every effort is being made to use the Home Economists' time to best advantage, so as to assist homemakers with their real needs and problems.

Before the war, the world of tomorrow was visioned in terms of material things. Today, the emphasis is not so much on material things as it is on the fact that it is the people who are important. The business or goal of a Home Economics Extension Service is to build people—to awaken and guide them to make the most of themselves. What is contributed to happier family and community life will help to determine the outlook of our countries. Unless we achieve a good life at home, we cannot exert our full influence among nations. This is the opportunity and challenge peculiar to Home Economics Extension Work.

Girls' Clubs.

Under the supervision of Miss M. K. Fraser, the Alberta Girls' Club programme is providing instruction for girls in the various phases of Home Economics. The training is proving to be of particular value to the large number of girls living in rural areas and with no other access to training in this type of work. Stress is placed on the development of desirable ideals and standards of homemaking, but the girls are also encouraged in leadership, improved community life and co-operation.

This year, homemaking projects were carried out by 93 clubs, with an average membership of 14. There were 27 of these clubs taking "Gardening" projects which were sponsored jointly by the Department of Agriculture and the Alberta Wheat Pool.

Projects: Each club member receives an outline of the study material for the year and each leader receives a manual of instruction and help. These provide a more or less uniform basis upon which the clubs may work and enable untrained leaders to carry on without undue confusion. Projects are offered in Clothing (Good Grooming, Sewing I and Sewing II), Foods and Gardening (Meals Up-to-date, Gardening, Home Beautification), Home Decoration (A Girl's Room and Decorating the Home), and Etiquette.

Awards: Efficiency winners are selected from each club that satisfactorily completes its year's work. These winners attend Girls' Club Week at a School of Agriculture during the summer. This year, two such weeks were held—one at Olds and one at Vermilion —with 84 Efficiency Winners in attendance. Fifty clubs also took advantage of the opportunity given to send a second girl to Club Week. These clubs in each case paid the transportation costs and room and board at Club Week for the girl who placed second in the year's work.

A programme of lectures, demonstrations, sports and social activities was prepared for the girls. Time was also allowed each day for a discussion of club work and leadership. The girls set up a very worth-while display of the work done in the clubs during the year.

These short courses are proving very helpful in encouraging club work and in training the girls in leadership. This fall, seven girls who have in the past been Efficiency Winners, are now acting as club leaders. They have had some valuable experience in the work and are impressed with the value of this work to other girls. Because of this, their clubs are proving to be very successful.

This year the number of scholarships donated by the Wheat Board Money's Trust Fund has been increased from one to four. These scholarships are awarded to the most outstanding club girls in attendance at club week and apply on a winter's course at a School of Agriculture. In 1946 these awards were won by:

Audrey Racher, Champion.
Mary Soley, Red Deer.
Aline Beaudry, St. Paul.
Sophie Komyr, Spedden.

This year the Alberta Wheat Pool increased its awards to the girls' clubs carrying on Garden Projects. Besides sending the Efficiency Winners to Club Week, they have given an award of $5.00 in value to the girl in each club with the best cared-for garden plot, and an award to the club standing highest in each Home Economist's district.

National Competitions: This year for the first time, the Canadian Council on Boys' and Girls' Club Work has sponsored a competition for Girls' Clubs. This competition was in Clothing. A team of two girls was selected from each of the 40 clubs in the Province carrying out a Clothing Project. Elimination contests were then held in each Home Economist's district and regional eliminations were conducted at Calgary and Edmonton. The final competition was then held in Edmonton in October and the Provincial team selected to take part in the competitions in Toronto in November. The Alberta team was Miss Della and Miss Betty Campbell of Stettler. These girls placed second in the National Competitions.

A great deal of interest and enthusiasm was aroused among the clubs by this competition work. It is expected that more projects will be added to the National Competitions from time to time. Some further financial assistance is necessary to assist the teams to attend the district, regional and final competitions in order to insure their being the most capable girls, rather than those most financially able to participate.

Other Activities: The Girls' Clubs and Junior Farm Clubs held a joint field day in the Stettler district and a rally at St. Paul. These proved an excellent opportunity of getting the young people to-

gether. A four-day camp was held at Gull Lake for Junior Club members from the Red Deer and Lacombe district, and was very interesting and educational for the young people who attended. The programme for these field days and camp consisted of talks, educational films and judging competitions, as well as inter-club ball games and other social functions.

Farm Girls' Camps were held at the Red Deer, Vegreville and Vermilion Class "B" fairs against this year. Instruction at these camps was provided by this Department. The theme used was the raising of standards in Foods and Clothing in the homes. Since exhibition work can help in raising these standards, stress was placed on judging and exhibiting at fairs.

Supervision.—The District Home Economists supervise the Girls' Clubs in their own districts following the general Provincial outline. They know the areas where club work would be of most value; they can give extra help to the leaders; and they are able to do follow-up work with these young people after they are out of the clubs.

The number of Girls' Clubs in the Province increases slowly because the number of clubs in each Home Economist's district is, of necessity, limited. The amount of club work that can be done by each Home Economist is also limited because of her transportation difficulties. The areas deriving the most benefit from Girls' Clubs are those outlying ones where the girls do not have advantages of this kind through schools, etc. However, it is almost impossible for the Home Economist to make regular visits to these areas under existing transportation arrangements. The number of clubs will increase as the Home Economist staff is increased and as more satisfactory transportation is provided.

It has been found that the percentage of clubs that satisfactorily complete their work during the year is increasing rapidly as they are given more supervision by the District Home Economist. Some attempt was made this year to hold leaders' meetings at various centres—Stettler, Red Deer, Thorhild and Willingdon. These were successful to a certain extent, but were of necessity of short duration and could only be held in the areas where the club were located around a central point so that the leaders could meet. The success of Girls' Club work is hampered to some extent by the lack of trained leaders. Although many women and older girls are performing fine work as club leaders, it is often difficult to secure a woman who has the time to devote to leadership of a club. Training in leadership, both for present leaders and those who might become leaders, is desirable.

SUMMARY OF ACTIVITIES OF WOMEN'S EXTENSION

No. of demonstrations	268	461	557	990	1,140
Attendance	8,272	14,454	19,317	34,388	39,900
Average attendance	31	31.4	34.6	34.7	35
Field days and short courses, etc.	28	33	57	129	83
Judging at fairs, conventions	6	9	20	23	25
Radio talks	5	10	28	21	38
Publications distributed	1,700	1,855	1,786	6,663	8,788
Letters requesting information	26,850	45,105	62,000	68,400	78,080
Home visits	135	267	621	911	1,021
Girls' clubs	83	85	85	87	93
Office interviews					827
Phone calls for information					1,646

District Agriculturist Service

F. H. Newcombe, who was appointed as Supervisor of District Agriculturists in July, submits the following report:

Staff Changes.

During the past year, District Agriculturist personnel were increased from 32 to 34. An office was opened at Wetaskiwin, and an assistant was appointed at Vermilion. The office at Hughenden was moved to Wainwright. Following are the changes in staff and location for the past season:

J. S. Robblee, assistant at Lethbridge, was transferred to Wainwright in charge of the office moved from Hughenden, and replacing T. W. Townley-Smith, who resigned.

W. C. Proctor, appointed to the new office at Wetaskiwin.

B. J. Whitbread, in charge at Calgary for the past seven years, transferred to Edmonton.

C. G. Anderson, transferred from Claresholm to succeed Mr. Whitbread at Calgary.

Peter Jamieson, appointed to the office at Claresholm.

Hugh A. Rigney, appointed to the Ponoka office succeeding I. A. Coles, who left to join the Live Stock Branch.

James A. Goode, appointed to the office at Westlock replacing E. G. Wood, who resigned to take over duties with the Seed Growers' Association at that point.

H. J. McPhail, formerly part-time District Agriculturist and Instructor at Olds School of Agriculture, assumed full-time duties in the Olds district.

N. A. Chomyc, appointed in the spring as assistant at Vermilion, transferred to teach Field Husbandry at the Vermilion School of Agriculture.

D. C. Purnell, appointed as assistant at Lethbridge.

K. H. Walker, transferred from the Department of Lands and Mines to the Department of Agriculture to be District Agriculturist for the Special Areas, with headquarters at Youngstown.

At the close of the year, therefore, District Agriculturist offices were situated and manned as follows: Athabasca, G. L. Godel; Berwyn, H. H. Michael; Brooks, Ira Lapp; Calgary (128 7th Ave. W.), C. G. Anderson; Camrose, G. G. Goldberg; Cardston, W. R. Hanson; Claresholm, Peter Jamieson; Drumheller, N. F. Bell; Edmonton (10138 100A St.), B. J. Whitbread; Falher, L. Gareau; Grande Prairie, J. T. Stranatka; Lacombe, G. R. Sterling; Lethbridge (Court House), S. S. Graham, D. C. Purnell (Assistant); Medicine Hat (Court House), J. L. Anderson; Morinville, J. M. Fontaine; Olds, Hugh McPhail; Ponoka, H. A. Rigney; Red Deer, O. G. Bratvold; Ryley, W. A. Moisey; Sangudo, L. A. Peacock; Smoky Lake, M. D. Shemeluck; Spirit River, G. W. Shewchuk; Stettler, R. D. Price; Strathmore, R. J. Milligan; St. Paul, Paul Gibeau; Thorsby, Thos. Kilduff; Vegreville, W. N. Pidruchney; Vermilion, E. H. Buckingham; Wainwright, J. S. Robblee; Westlock, J. A. Goode; Wetaskiwin, W. C. Proctor; Willingdon, Fred Magera; Youngstown, K. H. Walker.

The services of stenographers make a valuable contribution to the efficiency of district offices. As at December 31st, this assistance

was enjoyed by nine offices on a full-time basis, while in ten offices part-time assistance was available.

Soils and Fertilizers.

Reports indicate that soil erosion by wind and water is on the increase, particularly in the southern part of the Province and in parts of the Peace River area. In some districts also soil fertility is a limiting factor. District Agriculturists are endeavouring to cope with these problems, and one district reports 50% of the time devoted to control and preventive measures. The use of cover crop, trash cover, seeding to perennials, crop sequence programs and similar practices are being advanced by our officers through the medium of meetings, field days, demonstration plots and the press as practical methods in dealing with this problem. Worth-while results are being obtained, but this work must be continued and, if possible, extended.

General use of commercial fertilizers has been limited by non-availability of the products, but this difficulty should be obviated by the return of the country to a peace-time economy. In the meantime, District Agriculturists are conducting field trials and demonstrations in co-operation with the Field Crops Branch and the University in an effort to popularize fertilizers and demonstrate their value.

If the disastrous results which have attended neglect of the soil in other parts of the world are averted here, much of the credit will be due to the efforts of the District Agriculturists.

Seed Production.

Encouragement of the production and use of good quality seed is one phase of crop improvement work carried on by district offices. All indications point to increasing interest in better quality seed and the demand has been good. This is attributable to two factors: first, better ecnomic conditions find the farmer with more cash to spend, and secondly, the past efforts of District Agriculturists are bearing fruit. At their suggestion, many farmers have adopted the practice of having a seed plot each year.

Under the supervision of our offices also, new varieties are given field trial and their value demonstrated to the district. An equally important function in this regard is the unification of a district with respect to a variety and the dissemination of information which discourages the introduction of undesirable varieties. A great deal of loss and disappointment to the producers has been prevented and the reputation of our product sustained in this way.

In addition to registered and certified seed, the district offices were largely responsible for the placement and distribution of 51,000 bushels of commercial seed of barley and 540,000 bushels of oats.

Reports indicate that forage seed production is making rapid strides. Our district men will prove to be an important balance wheel to keep this presently lucrative enterprise from over-development.

The District Agriculturists had an important part in the National Barley Contest and were responsible for scoring over 200 fields in this programme.

Forage Seed Distribution.

Under the Forage Crop Encouragement Policy the District Agriculturists were responsible for the distribution directly and through

agents of some 770,500 lbs. of forage seed, an average of over 12½ tons per office. The greatest amount for any one office was over 78,700 lbs.

Without the supervision of our men the Policy would undoubtedly serve a useful purpose. By providing advice on varieties, methods and rates of seeding, harvesting and utilization, the District Agriculturist is in a position to make the policy serve its full purpose. He uses it as a means of introducing those crops without which no stable, permanent system of agriculture can be established or continue. The extent to which he is successful will be a measure of the ultimate stability and soundness of our farms and consequently of the prosperity and happiness of all the people.

Even the appreciable amounts of seed being distributed do not constitute sufficient to establish this immediately, but they provide the nucleus from which still large quantities will grow. The District Agriculturist uses them to demonstrate soil management and weed control.

Agricultural Service Boards and Weed Control.

Some Service Boards have now passed their second season, and reports indicate that their usefulness is becoming more generally recognized. The District Agriculturist finds in the Board a small group of men interested in the progress of the community and charged with some local responsibility and authority.

The primary problems being studied and attacked are weed control and soil conservation. The District Agriculturist is technical advisor to the Board, but also makes many suggestions with respect to programme planning. With the Field Supervisor, he is organizing and addressing a large number of meetings and field days, laying down many demonstration fields and arranging weed displays. Some boards are directly supervising the cultural practices on weed infested farms, and in a few cases they have found it necessary to take over certain farms for rehabilitation. In these circumstances, it is the technical training and practical experience of the District Agriculturist which direct cultural methods and cropping practice.

Most boards through the Supervisors are conducting careful surveys of their districts, and the information compiled is proving very useful in the work of the District Agriculturist.

Notwithstanding the progress being made with chemical sprays for weed destruction, it does not appear that anything yet developed can have greater general usefulness than good tillage practices and the use of competitive crops and fertilizers. Accordingly, it is obvious that the District Agriculturist is filling an important place in the programme of weed control, and one of the most effective phases of his influence is creating weed consciousness in the minds of the farming public. The more the weed problem becomes recognized as an educational one, the greater the part the District Agriculturist plays in it.

Live Stock Improvement.

Prices presently prevailing for live stock are responsible in a large measure for increases in this phase of agriculture and for the demands being made on district offices in this regard. Better returns in the industry provide more funds for the purchase of breeding stock. District Agriculturists are furnishing advice, information

and guidance in establishing sound live stock programmes on the farms, and this, together with improvement in quality and management methods, constitute the principal problems in live stock production. One District Agriculturist reports the founding of five pure-bred cattle herds, another a programme for increased use of minerals to provide for deficiencies which are presently responsible for sterility in breeding cows.

Feed supplies are generally reported to be ample, but in some cases the quality and variety of feeds leave something to be desired. The vigorous campaign with respect to the production of clovers as mentioned above will have an important effect in this regard.

Calfhood vaccination for immunization against Bang's disease has received the attention of the District Agriculturists, who are proceeding with plans for complete immunization of their districts. This work is still in the early stages, but will be greatly extended in the near future.

Pure-bred sire areas are being formed as rapidly as public opinion and the supply of bulls will permit. Even where these areas cannot yet be created, large numbers of pure-bred bulls are being placed. Of the almost 1,000 bulls distributed this year by the Live Stock Branch, probably 75% may be credited in greater or lesser degree to the activities of the District Agriculturist Service. In addition, the Agriculturists were instrumental in placement of 264 bulls by private transactions.

Swine production, after suffering a relapse during two years, is showing some indication that the low has been passed and that an upswing of the pendulum may be expected. This is being anticipated by the District Agriculturists, who have planned for such a circumstance and have held field days, meetings and demonstrations and lost no opportunity to improve quality of swine and methods of management. This effort will be intensified in the coming year, during which it is hoped that Alberta will return to her former position of prominence in this industry.

The District Agriculturists have been responsible also for the placement of 411 boars and 702 sows under the Improvement Policy and by private arrangement.

Work with sheep does not constitute such a large part of District Agriculturist duties, but the men this year assisted farmers with the purchase of 104 rams and 5 ewes.

Horse improvement work assumes diminishing volume and importance in reverse ratio to the development of mechanization of farm power. Seven stallions were placed through district offices this year.

Dairying.

The District Agriculturists report that interest in dairying is declining in some districts, and this would appear to be a natural reaction during periods when a satisfactory income can be secured from less arduous and exacting phases of agriculture. District offices are, however, concerned with dissemination of information and advice on rations for cows, general health of the herds, and care of the product. Many are taking an active part in encouraging the extension of cow testing.

Pests and Plant Diseases.

District Agriculturists have conducted the usual campaign to control warble flies. The trend in many districts is definitely toward power spraying of cattle. The cattle population of the Province for 1946 is slightly over 1¾ millions, and it is estimated that about 50% of all cattle in the Province are now being treated for this parasite. It is conservatively stated that 50% to 75% of this achievement may be credited to past efforts of the District Agriculturist Service. It is popularly considered that the annual average loss in untreated cattle is $5.00 per head. The application, therefore, of some simple arithmetic indicates an annual saving to cattle raisers of well over two million dollars directly attributable to the efforts of the District Agriculturist Service. Educational campaigns have been conducted, material has been made available and community organization has been affected with the results noted above.

The incidence of smut in cereal crops is reported to be on the increase during recent years. The District Agriculturists have directed attention to this, and a more vigorous campaign will be conducted to correct the condition.

In some districts grasshoppers and sawflies have received the attention of our men, and in others there have been problems of cutworms and wireworms. One district reports 100 shelterbelts sprayed for spruce sawfly. In all pest control measures the District Agriculturists are the assault troops, and as such their impact is tremendous.

Junior Farm Clubs.

Junior clubs continue to be, from the standpoint of time and effort involved, one of the principal activities of the District Agriculturist Service. Detailed statistics with respect to clubs will be found elsewhere, and will not be repeated here. Suffice it to mention that the 33 district offices operating for the 1946 season—some of them part-time—were responsible for the supervision of 165 crop and live stock clubs with a total membership of 2,991 girls and boys. Thus, the average per District Agriculturist was about five clubs and 88 members.

Poultry.

District offices report that interest in poultry continues to increase. Though District Agriculturists are not now required to do much specialized poultry work, they do considerable general promotion and are constantly called upon by poultry raisers in connection with day to day problems.

Beekeeping.

Small apiaries are reported to be on the increase. The work of the District Agriculturist in this field is mainly that of organization of and assistance to local groups. During the year, 63 special meetings and field days were organized by district offices for dissemination of information to beekeepers.

Farm Labour.

Placement of agricultural workers is an important service performed by District Agriculturists for the farmers in their respective districts. Statistics covering this activity are outlined hereunder: General farm workers placed, 1,098; harvesters, 3,555; re-

cruited for other industries, 286; Polish veterans placed, 500; total, 5,439; average per office, 160.

Peace River Farm Water Supply Assistance.

Introduced in May, 1945, this Policy has continued to benefit farmers in the Peace River area throughout the past year, though not so many dugouts were inspected as in the first season of its existence. The four District Agriculturists concerned in the operation of this plan report a total of 512 dugouts inspected during 1946, as compared to 720 for the preceding year.

Fencing of the dugouts has been a condition to Government subsidy, and planting of trees and seeding of grass is recommended, but will require some effort and organization during the coming year.

Owing to abnormally dry conditions, including light winter snowfalls, some dugouts have not yet been filled with water, but in a general way the Policy is working out satisfactorily. Few dugouts are now submitted for inspection that do not qualify by reason of dimensions, and the average capacity continues to be about 1,800 cubic yards.

SUMMARY OF DISTRICT AGRICULTURIST ACTIVITIES

	1944	1945	1946
Number of offices	28	31	33
Number of District Agriculturists	30	32	34
Number of meetings held	1,200	1,444	1,392
Total attendance	58,400	79,463	81,830
Average attendance	49	55	59
Number of farms visited	17,850	18,207	17,999
Number of office interviews	33,898	36,045	38,819
Number of letters written	35,105	31,853	33,320
Number of bulletins distributed	62,071	91,646	110,619
Number of telephone calls	26,556	27,289	28,738

REPORT OF PROVINCIAL VETERINARIAN

(DR. P. R. TALBOT)

The following are the duties performed by the Provincial Veterinarian:

1. Assistance to farmers living in districts in which no qualified Veterinarian is located.
2. Prevention and control of live stock diseases which do not come under The Animal Contagious Diseases Act of the Dominion Government.
3. Supervision of the health of live stock at all Provincial Government Institutions.
4. Educational work relating to diseases of live stock.
5. Administration of The Stallion Enrolment Act.

The appointment of Dr. Ross Walton as assistant to the Provincial Veterinarian has been of great assistance in investigating outbreaks of disease in outlying districts, as well as in localities where there is a heavy live stock population, but are without veterinary services.

The scarcity of veterinarians in the Province is a serious problem, and until new graduates or those coming from other countries establish themselves in those centres where they are so badly needed, our efforts in the control of animal diseases will have to be carried on as best we can under existing circumstances.

We have a total of 29 students from Alberta attending the Ontario Veterinary College at Guelph. None of these will graduate next year. The Provincial Government is continuing to give financial assistance to students attending the said College, and hope that these men will return to Alberta after graduation and establish at strategical points throughout the Province. To prevent any misunderstanding with regard to the assistance given students taking this course, we believe it advisable to outline the Policy as given in our 1945 Report, as follows:

"To help alleviate the need for more practising veterinarians, the Department is offering financial assistance to students who desire to attend the Ontario Veterinary College, with the hope that these men will return after graduation and establish a practise in Alberta. However, competition for these men will be keen, and as heretofore rural practise in Alberta has not been too profitable, it is necessary that these men be guaranteed an income if we wish to compete for their services with other provinces and countries.

"To obtain the assistance referred to, the student must be a resident of the Province for three years prior to enrolment at the Ontario Veterinary College. The three-year resident clause does not apply to applicants who have served in the armed forces, though they must, of course, have been resident in the Province prior to enlistment. Should a student fail to pass any year's examination and retake the lost term, the assistance will apply to one year only. At the successful completion of each year at the College, the student will be reimbursed by the Department to the extent of $200.00.

"In addition to the above, the following scholarships are offered:

1. When there are three or more students enrolled for the Province, the Department will provide a scholarship of $100.00 to the Alberta student who obtains the highest general standing.
2. A general proficiency scholarship of $100.00 will be provided any student enrolled from Alberta who obtains the highest general standing for the whole class in any one year.

"To qualify for the scholarships under (1) and (2), the standing obtained by the student must be at least 75 per cent."

Horse Diseases

There were only two suspected cases of Encephalomyelitis reported by veterinarians during the year. The horses which had come in contact with these suspected cases were immediately vaccinated, and no further evidence of the disease occurred. Some inconvenience is experienced through the fact that horses shipped into the Province of British Columbia require a certificate of vaccination against Encephalomyelitis. This is not an Alberta regulation, however, and is mentioned here as there appears to be confusion in the minds of shippers that this Province enforces these regulations.

There were some losses amongst horses in the northern part of the Province late last summer and early fall. Dr. Walton made a careful investigation of these losses, and it was his opinion that the trouble was a form of forage poisoning, but the cause of the condition was not definitely determined. Losses in horses during certain years, apparently, occurs when forage and water conditions are favourable for the development of various fungi, but up to the present no specific organism has been isolated in connection with the disease, nor has any definite line of treatment been entirely satisfactory.

Cattle Diseases

Hemorrhagic Septicemia.

Hemorrhagic Septicemia (Shipping Fever) has not been so prevalent during 1946 as in some previous years. We still advocate the vaccination of cattle, which are to be shipped to feed lots, with a reliable Hemorrhagic Septicemia Bacterin. This should be done from two weeks to a month prior to shipping. Cattle which have been exposed to infection should be isolated for ten days or two weeks before being allowed to mix with other cattle on the premises. In addition, cattle showing symptoms of the disease should be isolated until recovery takes place. There seems to be confusion in the minds of some as to the use of bacterins and serums in the prevention and treatment of Hemorrhagic Septicemia. It must be kept in mind that the bacterin should be used as a preventive, while the serum is given when an animal shows evidence of infection. In addition to having a curative action, Hemorrhagic Septicemia serum will produce a rapid immunity. Unfortunately, however, this immunity will last only a short time. Therefore, if this biologic is used as a preventive, it should be followed almost immediately by the injection of a Hemorrhagic Septicemia bacterin, which should give an immunity over a considerable length of time.

Blackleg.

Blackleg continues to be one of the most common diseases affecting cattle, especially in certain districts in the Province. The use of Blackleg Filtrate, Blackleg Bacterin and Blackleg Aggressin, of reliable manufacture, is gradually having an effect in reducing the losses from this disease. If the stock owner would remember to vaccinate his young cattle as a regular routine, instead of waiting until an outbreak of the disease occurs, losses from this cause could be reduced to a minimum.

In some districts, where Blackleg is particularly prevalent, we recommend that calves two to three months old be vaccinated, then a second dose be given when the animal is between the age of six months and a year. If this procedure is following a lasting immunity can be expected.

For some time past we have been receiving inquiries regarding a Mixed Bacterin for the prevention of Glackleg and Malignant Edema, and stock men have been using this product under the impression that it will give a satisfactory protection against the two diseases. The losses from Blackleg are extensive—while those from Malignant Edema are comparatively rare. It is our opinion that a Mixed Bacterin, such as the one mentioned, will not give the desired immunity to the same extent as one recommended specifically for Blackleg, and for this reason a straight Blackleg biologic should be given preference. Should there be a suspicion that the death of an animal may be due to Malignant Edema, a specimen of diseased muscle should be sent to the Veterinary Laboratory for examination. Should the organism causing Malignant Edema (Clostridium Septibus) be present, then the Blackleg and Malignant Edema Bacterin may be used to advantage.

Bang's Disease.

The policy to aid cattle owners in vaccinating their calves against Bang's disease has been continued throughout the year. The difficulty is that owners appear to be reluctant to take advantage of the Policy until the disease strikes, and when it does they expect to get immediate relief through vaccination. This, of course, cannot be accomplished, and is not the purpose of the Policy. In 1946, a total of 3,608 calves were vaccinated—an increase of 1,360 over the number vaccinated under this Policy in 1945. Applications are still on hand for approximately 1,100 more to be vaccinated.

There are two main factors which prevent the vaccination of all calves for which applications have been submitted in any one year. First, the majority of cattle owners, especially those with large ranch herds, will not round-up their calves until the snow falls. Secondly, when winter sets in the roads often become impassable and transportation is difficult. This results in a large number of calves not being vaccinated until the first of the year, although the applications have been received in the fall. We have tried to confine this work to two months in each year—May and November.

Applications some in from cattle owners who are situated long distances from other applicants, and who may only have one or two calves to vaccinate. The vaccination of such calves is, of course, difficult and costly. In order to surmount this difficulty, two districts agreed to organize a number of cattle owners, so as to have, at least, 500 head to be vaccinated in each municipality. However,

only on district was able to meet this objective. This would appear to be a sound way to have this Policy operate.

Mastitis.

Late in the year this Branch, in co-operation with the Dairy Branch, instituted a programme to study Mastitis in two institutional herds. The plan is to establish practical ways and means of preventing this disease and to study the merits of different forms of treatment which are advocated for it. As it was late in the year before this programme was started, enough time has not elapsed to evaluate any results.

Swine Diseases

Swine Rhinitis continues to exist in some herds, although it does not appear as prevalent as in 1945. No doubt the decrease in hog production has had something to do with this; also many swine raisers recognize the fact that they must carry out sanitary measures if they are going to remain in the swine business. In general, swine appeared to have been comparatively free from disease throughout the year.

Sheep Diseases

There has been little change in sheep diseases during the past year. Sore Mouth, Kertitis, Enterotoxemia, Lambing Paralysis and Parasites are the common diseases affecting sheep. Bulletins prepared by this Branch and by the University of Alberta contain valuable information on feeding, management and diseases of sheep and can be obtained by applying the same to the Extension Branch of this Department.

Educational Work

A large number of meetings, field days and short courses have been attended to discuss live stock diseases. Emphasis is laid on the prevention of disease. Courses in disease prevention were given to students at the Provincial Schools of Agriculture.

Stallion Enrolment

The number of enrolments for 1946 has fallen off considerably, and it is quite probable that decrease will be more noticeable in 1947.

Stallion owners can no longer afford to travel their horses through a district as was the practice in years past. In fact, even standing a stallion at the owner's premises, in many instances, will not pay expenses. In spite of the fact that good heavy horses bring a fair price, the farmers consider that the cost of raising a horse to saleable age, considering the time to break it in thoroughly, does not bring sufficient returns to make horse raising profitable.

It would appear from the number of horses being sent to fox farms, as well as those being processed at the different plants in Western Canada, that the horse population will soon be depleted to a danger point, and for this reason consideration should be given to encourage farmers to raise a few colts of good quality each year.

The demand for good draft horses will, in our opinion, improve, and we should be in a position to meet this when the situation arises. We believe the only satisfactory method of controlling the breeding of horses is by inspection and enrolment of stallions. Therefore our present policy will have to be continued in spite of the fact that the situation at present is not encouraging.

The light horse picture is entirely different, and the interest in thoroughbreds, saddle horses and both light and heavy hunters extends from one end of the Province to the other. Active Thoroughbred Associations in both northern and southern Alberta have done a great deal to improve the light horse industry. They have been instrumental in bringing into this Province Thoroughbred sires of good quality. Saddle clubs at both Calgary and Edmonton have also played an important part in the light horse industry, and through their membership have created a demand for horses of a desirable type. The shows and exhibitions at both Calgary and Edmonton, for both light and heavy hunters, have been an inspiration to all interested in light horse breeding. The following is a summary of enrolments and inspections done in this Branch during 1946:

Breed	Enrolled	Inspected	Passed	Turned Down	To be Re-inspected
Percherons	105	29	24	5	
Clydesdales	15	4	3	1	
Belgians	41	8	6	1	1
Suffolks	2				
Standardbreds	7				
Thoroughbreds	27	10	3	4	3
American Saddle	10	2	1		1
Arabian	1				
Hackney	1				
Tennessee Walking Horse	1	1	1		
Total	210	54	38	11	5

The following statistics give the number of horses sold at the Lacombe Horse Sale since 1930 up to the present, also statistics for various horse sales throughout the Province.

LACOMBE HORSE SALE

Year	No. Sold	Total Sale Value	Ave. per Head
1930	357	$16,569.86	$82.80
1931	605	33,465.00	55 31
1932	386	22,967.50	61.08
1933	187	10,328.00	55.23
1934	203	13,764.50	67.80
1935	366	25,110.50	68.60
1936	308	25,830.25	83.86
1937	540	50,712.00	93.91
1938	684	57,540.00	84.10
1939	1,005	79,515.60	79.12
1940	815	59,288.00	72.75
1941	681	42,947.00	64.24
1942	711	49,282.50	69.30
1943	707	51,737.50	73.25
1944	986	73,083.00	74.12
1945	1,017	66,880.00	65.75
1946	1,033	66,245.00	64.13

CALGARY HORSE SALE

1941	322	21,896.00	68.00
1942	347	25,225.00	72.69
1943	616	43,298.50	70.28
1944	856	61,052.50	72.37
1945	1,120	76,607.50	68.40
1946	953	67,167.50	70.48

RED DEER HORSE SALE

1945	327	21,582.00	66.00
1946	259	11,687.50	45.13

STETTLER HORSE SALE

1945	924	63,044.00	68.20
1946	647	40,210.00	62.15

LETHBRIDGE HORSE SALE

1946	397	17,312.50	43.61

BROOKS HORSE SALE

1946	135	8,300.00	61.48

EDMONTON HORSE SALE

1946	46	3,117.50	67.77

REPORT OF THE ACTING ANIMAL PATHOLOGIST

(G. S. WILTON)

A successful and profitable practise of agriculture has been and always will be dependent to a large extent on live stock development. Our entire trade in live stock, milk and meat food products relies on the health of animals. Among the obstacles is the danger of severe losses resulting from preventable diseases. The purpose of the Veterinary Laboratory is to provide a service which will help to reduce these losses by applying measures of control which are known to be effective. To amplify this statement, the duties are as follows:

1. Post mortem and bacteriological examination of specimens submitted by veterinarians, district agriculturists and farmers.
2. Blood testing service in which cattle bloods submitted by veterinary surgeons are subjected to the agglutination test for the diagnosis of Brucellosis (Bang's Disease).
3. Preparation of autogenous biological products most of which are made to control distemper in fur-bearing animals. Bacterins are occasionally prepared to control germ infection in other species.
4. Providing information by correspondence, field days, meetings and by discussion with live stock owners, district agriculturists and veterinarians who personally visit the laboratory.
5. Investigation of animal diseases.

Dnagnostic Service.

During the year 1946, a total of 3,354 specimens have been examined with an increase of 210 over that of 1945. There were also 4,105 cattle blood samples submitted to the tube agglutination test for Brucellosis (Bang's Disease).

The tables that follow summarize the work that has been done respecting specimens submitted.

SPECIMEN TABLE

Species	Live	Dead	Portions	Total
Swine	55	76	20	151
Horse			12	12
Cattle	1	8	100	109
Sheep	2	9	4	15
Buffalo			3	3
Fox	3	20	2	25
Mink	42	152		194
Marten		1		1
Rabbit	2	4		6
Chinchilla	1	5	3	9
Dog	1	4	3	8
Cat	1			1
Chicken	535	604	11	1,150
Turkey	53	108	6	167
Pheasant	18	12		30
Feed			13	13
Fecal Samples			4	4
Milk Samples			429	429
Blood Samples			27	27
Total	714	1,003	637	2,354

ANIMAL DISEASE TABLE

	Horses	Cattle	Sheep	Swine	Buffalo	Fox	Mink	Marten	Muskrat	Rabbit	Chinchilla	Dog	Cat	Total
Abortion	1	5				1	11		1					19
Abscess	1													1
Accidiosis							1							1
Actinomycosis		2												2
Anaemia				12		1	5							18
Arthritis		1												1
Avitaminosis				6										6
Blackleg		15												15
Urinary Calculi							4				1		1	6
Coccidiosis		1					7							8
Corynebacterium Infection		2												2
Cystitis							2				1			3
Distemper						1	30					2		33
Enterotoxemia			2	2		1								5
Errors in Feeding		1		2		1	8			1	1			14
Food poisoning		1	1			6	44					1		53
Gastritis and Enteritis		5	2	74		11	57	1			2			152
Infection of Newborn		4	1	2										7
Injury						1						1		2
Lungworm		2	1											3
Malignant Oedema		3												3
Mastitis		245												245
Necrotic Enteritis				14										14
Necrophorus Infection		8		2										10
Neoplasm		1		2			1							4
Nephritis						1	2							3
Nursing Sickness							2							2
Overdose Reduced Iron				3										3
Parasites External			1				2							3
Pasteurella Infection		13		19										32
Pneumonia	1	8	2	49	1	2	9			1	1			74
Poisoning (Chemical)		2				4	4					3		13
Pregnancy Disease			1											1
Pulmonary Edema		1												1
Pyemia		1												1
Pyelonephritis		2												2
Rhinitis				11										11
Rickets							1							1
Roundworms	2			28		1							1	32
Salmonella Infection						1	4							5
Scours		3												3
Septicaemia							6							6
Staph. Infection		2												2
Swamp Fever	1													1
Swine Erysipelas				3										3
Swine Influenza				1										1
Tapeworm		1	1											2
Tuberculosis		2		1	2									5
Tumors		3		3			2							8
No Evidence of Disease or putrid	5	38	2	4		2	16					2	3	72
Miscellaneous		4	3	3			5			1		1	1	18
Faeces	2	1										1		4
Total	13	377	17	241	3	34	223	1	1	3	6	11	6	936

POULTRY DISEASE TABLE

	Chickens	Turkeys	Miscellaneous
Avian Diphtheria			
Blackhead		7	
Botulism		1	
Chilling or Overheating	173	26	
Coccidiosis	249	6	
Egg Bound and Internal Laying	15		
Encephalomalacia in Chicks	11		
Enteritis	25	10	2
External Parasites	9		
Fowl Cholera	5		
Fowl Typhoid	2	1	
Impaction	8	4	
Infectious Bronchitis	13	2	
Internal Parasites	79	7	18
Laryngotracheitis	4		
Leukosis Complex	68		
Neoplasm	3		
Nutritional Disorders	74	19	
Omphalitis	4		
Perosis		3	4
Poisoning	4	1	
Pullorum (adult)	2		
Pullorum (chick)	96		
Paralysis	14		
Prolapse	4		
Roup	16	2	
Ruptured Liver		1	
Sinusitis		12	
Tuberculosis	95	9	6
Visceral Gout	15	2	
Miscellaneous	24		1
No evidence of disease or putrid	87	23	3
Total	1,098	136	34

Biological Products

Autogenous bacterins have been prepared at times throughout the year in an endeavour to curb certain diseases of live stock. A number of mink ranches have been treated with formalized tissue vaccine prepared by the laboratory for distemper with good results. Brucella abortus antigen was continually made for use in the laboratory for our free cattle blood testing service. We also prepared positive and negative Brucella serum for distribution to veterinarians who requested it for the rapid test.

Contagious Abortion (Bang's Disease).

This disease in cattle is quite prevalent throughout the Dominion. Control lies in the vaccination of all heifer calves between the ages of four and eight months. It is optional with the owner whether or not he wishes these calves blood tested. The number of calves failing to react after first vaccination is small. However, many veterinarians are much in favour of learning the reaction of the vaccine as shown by the post vaccination blood test, and to be ensured that a "take" has resulted. Veterinarians have continued to use our free blood testing service for herd tests. Out of the 4,105 tests made, there were 701 positive reactions and 184 doubtful. There were also 218 positive reactions following calfhood vaccination.

The causative organism of this disease is contagious to man and causes what is commonly known as undulant fever. Due to cases of it occurring recently in the Province, the Department of Health has requested a copy of test results made on all cattle bloods. Another example cited in which city authorities became involved was a particular dairy delivering unpasteurized milk. Blood tests made showed that about half this herd was infected with Brucellosis. Later, a customer contracted undulant fever. This depicts one of the many reasons why pasteurization of milk for public use should be made compulsory.

Mastitis.

The great economic loss in the dairy industry due to mastitis has caused much concern to the Alberta dairymen. With this in mind, it was decided to augment the activities of the Animal Pathology Laboratory, and a plan was devised in which investigational and a limited control programme for mastitis would be undertaken. The Edmonton milk shed having a laboratory at hand, was selected for the initial study.

It is important in a control programme to identify udders that are harboring microorganisms commonly responsible for mastitis, and to manage these carriers in such a way as to decrease the opportunity for the spread of infection to other animals in the herd. This procedure combines the following: early diagnosis by laboratory test, prevention by proper sanitation, milking practises and herd management, along with treatment of infected cows by veterinarians familiar with the most recent information on this disease. A number of herds in this area have been tested and treated. Favourable statements have been made by owners, but due to the infancy of the investigational programme, no conclusions have as yet been reached.

In addition to assisting the Dairy Bacteriologist in the work carried out in the Edmonton milk shed, this Branch examined 429 milk specimens submitted to the laboratory by veterinarians from various parts of the Province. It was found that 245 were positive and harbouring one of the causative organisms of mastitis.

Miscellaneous Species.

There have been many conditions recorded in various animal species which would deserve comment in a more detailed report. Blackleg and hemorrhagic septicaemia (Pasteurella infection) are diseases that have taken a heavy toll. It is recommended that all young cattle be vaccinated in the spring for blackleg between the ages of three months and two years before being turned out to pasture. Calves born after the noted time are vaccinated at three months of age. Respecting hemorrhagic septicaemia, it is recommanded that feeder cattle be vaccinated with a bacterin *at least* two weeks before shipping.

Swine.

There were a few less specimens submitted to the laboratory this year. Rhinitis, a disease which caused very great concern last year, is still with us, but to a lesser extent. Some farmers are still experiencing great difficulty, but it would appear that the virulence of the disease at the moment has lessened. Farmers, too, are becoming aware that those premises that are badly affected with the disease are well advised to dispose of their herd and start afresh in new buildings and ground. It has been noted that many of the farms badly infected were not too good from the sanitary point of view, but in some instances, where sanitation was satisfactory, disease was also present.

In spite of the fact that widespread information on the prevention of pig anaemia has been undertaken, there are always a considerable number of farmers each year who are either not aware of the measures to be taken or fail to take the trouble to treat the piglets as is required.

Many of the cases submitted show enteric disturbances as a result of poor sanitation, improper feeding, parasitic infestation and infection.

Poultry.

A marked increase in the number of poultry specimens submitted to the laboratory have been noted in the past year. It is unlikely that disease was more prevalent, but rather a case of the farmers becoming aware of the services rendered and taking advantage of same. The poultry table relates the incidence of disease with tuberculosis, coccidiosis, pullorum and nutritional disturbances being the greatest offenders.

Sulphanilamide preparations have given better results in preventing heavy losses due to coccidiosis than any other preparations or methods previously used. Other sulpha drugs such as sulphamerazine and sulphadiazine gave very good results, but their high cost at present renders them impractical. If this protozoan disease is allowed to run its course, especially in wet weather, the mortality rate is extremely high. However, with the administration of sulphanilamide, particularly as a preventative, most gratifying results are obtained.

Extensive rapid whole blood agglutination testing for pullorum disease in chickens and turkeys was carried out under the direction of the Poultry Commissioner. The causative agent of pullorum disease was isolated from 96 chicks submitted to the laboratory. A percentage of the putrid specimens would have yielded this organism if they had been suitable for examination. Regulations enforced by the Poultry Branch have reduced the incidence of this disease among chicks sold by approved hatcheries, but complete eradication is difficult to attain.

Fur.

The number of fur-bearing animals submitted to the laboratory during the past year shows a slight increase over that of last year. However, the incidence of distemper was somewhat lessened, although still too prevalent. The improvement in this situation is probably due to the fur farmers becoming aware of its infectious character and taking greater precautions to keep their ranch in a sanitary condition and free from animal carriers. Some mink ranchers have become firm believers that "prevention is better than cure," and have adopted the sound policy of vaccinating the breeding stock after pelting and the kits shortly after weaning. However, this group is in the minority.

After heavy losses experienced with this disease in the north last year, the department agreed to assist the ranchers by placing an order for 25,000 doses of mink vaccine from a proven commercial source, hoping that the ranchers would buy this product and vaccinate their animals as a preventative measure. Some ranchers took advantage of this opportunity, but many failed to do so, resulting in 9,100 unsold doses being returned to the company headquarters. Following the return of this vaccine in October, several outbreaks occurred in various parts of the Province, with the result that the laboratory reverted to the production of vaccine for the affected ranches. During the year there were 3,109 mink vaccinated with vaccine prepared by the Veterinary Laboratory.

Only a few cases of fox distemper have been reported throughout the year.

Over 100 specimens submitted were found to have been affected with food poisoning and other digestive disorders. The marked increase in this difficulty is partially accounted for by the inability of the farmers to procure sufficient suitable food supply for their animals. This is due in part to the Edmonton Horse Co-operative Marketing Association, Limited, preparing horse meat for shipment overseas and thereby substituting high quality meats to the rancher with that of inferior quality. Due to many of the ranchers having improper storing facilities, the poor quality minced meat soon decomposed, resulting in many digestive disturbances.

We have continued to work with the Director of Agriculture Extension by assisting at meetings and field days as time permitted.

REPORT OF PROVINCIAL APIARIST

(W. G. LE MAISTRE)

Alberta's 1946 honey crop was the largest ever harvested, being 6,200,000 pounds. This is the first time Alberta has been the leading Province in honey production. The average yield of 86 pounds per colony is three percent below the five year average of 89 pounds. The increase in the total crop results from a 12% increase in the number of hives operated, which numbered 72,000.

	Production in lbs.		Av. Net Price per lb. to Producer		Value in dollars	
	1945	1946	1945	1946	1945	1946
Honey	6,000,000	6,200,000	15c	16c	$900,000	$ 992,000
Beeswax	84,000	87,000	45c	45c	38,000	39,000
					$938,000	$1,031,000

Bees	1945	1946	% Change
Number of beekeepers	10,000	11,000	+10%
Number of hives	64,000	72,000	+12%
Number of hives per beekeeper	6.4	6.5	2%
Production per hive (lbs.)	92	86	— 7%

Of Alberta's 72,000 hives only about 9,000 were wintered over from 1945. The balance of the 63,000 hives were established from packages imported from California, Alabama, Mississippi, and Louisiana. The cost of these packages laid down in Alberta varied from $5.00 to $6.50 for two-pound packages and from $6.00 to $7.50 for three-pound packages.

Some failures in honey crops were reported in widely scattered districts. July frosts are thought to have affected bloom at critical periods in these places. Failures resulting from losses of queens and other causes are reported in 10% of the hives.

Only 16% of hives were prepared for winter in 1945. Winter losses were high, amounting to 49%. If these losses could be reduced it should be possible to encourage wintering to a greater extent. It is remarkable that so few hives are wintered. The industry's dependence on imports of package bees places it in a vulnerable position. Tests conducted by this branch and elsewhere have shown conclusively that bees can be wintered with only small losses. The main factor against wintering is an economic one. Wintered over hives have in the past failed to be as productive as packages. They use more labour, more feed, and may not survive the winter.

Recent tests as outlined below under "Experimental" indicate that the chief economic objections to wintering may have a solution. Results of tests indicate that to be productive, such hives should be divided in May. This procedure results in larger crops by the parent hive, and the increase is as good as a package and has cost very much less.

Season.

Flights and gathering of nectar and pollen were good during periods in April, but May was so cold and retarded that the usual mid-May flow from dandelions did not occur until the end of the month, consequently colonies were slow to build up to full strength. The main honey flow began at the end of June, about the usual

time, but was not intense until the middle of July. Some areas were affected by July frosts, and the crop was very small in them. On the whole, the yield per colony was 3% below the five year (1942-1946) average of 89 pounds.

Marketing.

The disposition of almost the entire honey crop was made in the fall. The continuance of rationing was expected to have this effect. Most of the crop was sold through direct consumer sales, perhaps 30% entered wholesale and retail trade.

	1945	1946
Producer to wholesaler, per case 8's	$7.60	$8.07
Producer to wholesaler, bulk, per lb.	.13	.14
Producer to retailer, per case 8's	8.01	8.49
Producer to retailer, bulk, per lb.	.13	.14
Produced to consumer, bulk, per lb.	.15	.16

The price is practically 1c per pound higher than last year. This price increase was allowed by the Wartime Prices and Trade Board in lieu of the subsidy on package bees which was paid in 1945 at the rate of 50c per pound of imported bees.

These prices apply on No. 1 White grade only; lower prices are set for lower grades.

Disease Control.

The number of inspectors was increased to 17. Since these men work only part time and the season during which their work is most effective is short, it would be desirable to increase their number. One difficulty in doing this is to discover suitable men for the work.

Microscopic diagnoses are performed in our laboratory. Any beekeeper suspecting disease is advised to forward a sample for examination. There were 83 samples submitted and diagnosed as follows:

American Foul Brood	30
European Foul Brood	6
Sac Brood	2
Nosema	2
Undetermined	4
Not diseased	39

A system to prevent one commercial apiary from being placed too close to another is employed. This is necessary to prevent the decimation of large number of colonies through rapid spread of disease; at the same time it gives such apiaries protection against overcrowding the available nectar sources.

Maps marking the locations of established sites of commercial operators are kept. All beekeepers when moving used beehives are required by the Act to obtain permits to do so. An application for a permit must state from where and to where the hives are to be moved. Before a permit is issued, the map is consulted, and if the location desired is found to be within a mile and a half of a previously established apiary, the applicant is advised to seek another site.

	1945	1946
Number of hives inspected	4,800	6,120
Number of hives diseased (A.F.B.)	280	127
Number of apiaries inspected	904	706
Percentage of inspected hives diseased	5.8	2.1
Percentage of all hives diseased	.43	.18
Number of beekeepers registered	8,300	9,000
Number of beekeepers not registered (est.)	1,700	2,000
Number of hives registered	5,600	58,000
Number of hives not registered (est.)	8,000	14,000

Experimental.

Test to compare productivity of over-wintered hives and two pound packages:

7 over-wintered hives averaged	68 lbs. each
4 packages (2 pounds) averaged	40 lbs. each

Test to compare over-wintered hives left intact throughout the season with over-wintered hives divided in spring:

7 over-wintered hives averaged	68 lbs. each
2 over-wintered hives (plus 2 increase made from them) averaged	160 lbs. each

Indications are, from the above test and from similar tests reported by the Dominion apiaries at Brandon* that if over-wintered hives are divided in the spring they, plus the production of their increase, exceed the production by the wintered hives left intact and exceed the production by packages.

If these results are confirmed, it would be likely to encourage beekeepers to undertake wintering their hives more commonly than they do.

Extension.

The relative newness of beekeeping here and consequent lack of general knowledge leads to many mistakes being made by beekeepers. There is a very evident need for the wide dissemination of information of all kinds on the subject. This is accomplished through radio talks, seasonal notes to the press, and bulletins, all of which are written specifically for conditions in Alberta. A new illustrated leaflet on "Care of Package Bees" was written.

Field days, demonstrations and meetings are held whenever a local demand requires it. Through the valuable assistance of the District Agricultural Service, there were 91 such occasions.

Beekeepers Organizations.

There are on our records, 51 beekeepers associations. Many of these are affiliated to form the Alberta Beekeepers Association. The object of these is to promote the welfare of the industry in the Province. The Provincial Apiarist is the secretary-treasurer of the Alberta Beekeepers' Association.

The Alberta Honey Producers Co-operative Ltd. has been operating out of this Branch for its second season. The growth of its membership and the use beekeepers make of it indicate it to be filling a valuable place in the economy of the industry. It is operating in a small field, but the volume of bees and supplies handled would indicate that it can be expected to function on its own before long.

The following officers and directors were elected: P. Kowalski, Bon Accord, President; Harvey W. Smith, Bassano, Vice-President; J. W. Blewett, Edmonton, Secretary-treasurer and Manager; Directors: H. T. Philpott, Brooks; M. J. Zeise, Dapp; W. G. le Maistre, Edmonton; Allan Graham, Coaldale; R. W. Sterling, Westlock; J. M. Shafer, Rainier; P. A. Sicotte, Falher.

Sugar.

The Sugar Administration makes allowance for beekeepers to obtain a limited quantity of sugar for feeding colonies. This Branch is made responsible for issuing 11,000 permits.

*Dom. Exp. Farm Service Pub. 774, Farmers Bul. 130.

REPORT OF SCHOOL OF AGRICULTURE, OLDS

(F. N. MILLER, *Principal*)

The 1945-46 term was brought to a close on April 4th, when diplomas in Agriculture were presented to 57 young men and two young women, and diplomas in Home Economics to 33 young women. Dr. E. J. Thompson, St. Stephen's College, Edmonton, was present to address the graduating students. Mr. S. H. Gandier, Superintendent of Schools of Agriculture, was also present.

The valedictorian was Cyril McAndrews of Vauxhall.

Scholarships were presented as follows:

The Alberta Wheat Board Monies Trust Scholarships, each of $100.00, tenable at the University of Alberta when they register for a degree course—Earl Bergman, Erskine; Norman Hoppins, Huxley; Cyril McAndrews, Vauxhall; Neil Mowatt, Parkland; Wilma Guitard, Olds; Mrs. C. L. Moore, Olds.

A scholarship of the value of $75.00 to the student in Agriculture standing highest in the work of the first year—To Angus Grieve, Lougheed.

A scholarship to the value of $75.00 to the student in Home Economics standing highest in the work of the first year—To Norah Fewkes, Mirror.

A. L. Searle Scholarships of the value of $50.00 each for progress in the first year's work—The one in Agriculture was awarded to Eric Axelsen, Wayne; the one in Home Economics was awarded to Agatha Peters, Rosemary.

The Girls' Alumnae Scholarship of $50.00 to the student in Home Economics who made satisfactory standing in academic work and also made contributions to the athletic, social and literary life of the school—Awarded to Vera Krinke, Ferintosh.

The O.S.A. Experimental Union Scholarship of $50.00 awarded on the basis as the above, was awarded to David Morrison, High River.

The Alberta Women's Institute Scholarship, also of $50.00, for a first year student in Home Economics who had a creditable scholastic record, who made valuable contributions to the life of the school, and who displayed talent for leadership—Won by Clara Jorgensen, Wayne.

Approximately seven graduates are presently in attendance at the University of Alberta.

Enrolment.

The minimum age for admission was raised from 16 to 17 years in the Regulations as outlined in the 1946-47 calendar. In spite of this fact, all students admitted to the course in Agriculture at Olds this fall were 18 years old or over, and in the neighbourhood of 125 16 and 17-year-olds had to be turned away. We feel, however, that the older young men and women benefit to a greater degree by the courses than do the younger students. They seem to be a little more mature, and consequently have a better realization of the implications of their studies to them as future farmers. In the course in Home Economics it was possible to enroll all applicants 17 years of age and over.

Following is the enrolment at the Olds School of Agriculture for the term 1946-47:

First Year Home Economics	23
First Year Agriculture	44
Two-in-One Home Economics	20
Two-in-One Agriculture	37
Second Year Home Economics	21
Second Year Agriculture	48
Total	193

We have enrolled at present, 27 ex-servicemen and three ex-service women. These students are doing splendid work, and as a whole are a credit to the School. One ex-service man is living in a trailer at the Olds Auto Camp with his wife and two children. This student stood first on his Christmas tests in First Year Agriculture. Ex-service men and women also stood first on the Christmas tests in First Year Home Economics and Two-in-One Agriculture.

Several of the students enrolled own their own farms. One of these students is 36 years old.

It is interesting to note that out of the 129 students in Agriculture, 46 are past members of the Junior Farm Clubs.

Staff Changes.

James Murray retired as Principal of the Olds School of Agriculture on June 10th, after 16 years of splendid service. He was succeeded by F. N. Miller, who was Supervisor of Junior Activities and Youth Training with the Department of Agriculture at Edmonton previous to his appointment to the principalship at Olds. The present principal was a Two-in-One student in Agriculture at Olds during the term 1930-31, the first year of Mr. Murray's principalship.

Miss Lillian Cheladyn, B.Sc., who was District Home Economist at St. Paul, Alberta, was appointed to the position of instructress in Cooking and Household Administration to replace Mrs. Tom Clarke. Miss Cheladyn graduated from Olds in Home Economics as a Two-in-One student in the spring of 1943.

Miss G. E. M. Burwash, B.H.Sc., was appointed Matron and Dietitian to replace Miss Lilian Rogers, who resigned from this position during the summer. Miss Burwash spent four years in the R.C.A.F. serving both in Canada and on the continent as dietitian. Before joining the R.C.A.F., Miss Burwash was assistant dietitian at the Saskatoon City Hospital. She comes to the Olds School of Agriculture well qualified for her new duties.

Miss Elizabeth Dixon, R.N., was appointed as assistant nurse and instructress in Home Nursing to replace Miss I. Gourlay, who resigned. Miss Dixon came to us from the staff of the Vulcan Hospital.

Mr. Hugh McPhail, who has been assisting with instruction in English, Economics and Mathematics for some years in addition to his District Agriculturist work, has been relieved of these duties in order that he can spend his full time on extension work. His subjects of instruction have been assumed by other staff members.

New Buildings.

A new greenhouse was constructed this summer. Such a building has been a dire need at the school for some time. Unfortunately, however, after the erection of the greenhouse it was found impossible to secure glass for its completion. Several valuable plants purchased during the summer for propagation in the greenhouse during the winter have now become a total loss to the School.

The greenhouse was constructed on the site of the old skating rink. This necessitated the skating rink being moved. The old rink was in such bad repair that little lumber could be salvaged for a new construction. It was decided to build a new rink. The cost of this was borne by students' funds, as it was impossible to secure any financial assistance from the Department.

The rink has now been constructed by students and staff, but unfortunately there is not sufficient water available at present to build an ice surface. During the summer a new well was dug, and although there is an abundance of water in it, as yet no pump has been secured to service this well and thus augment our normal supply of water.

A new machine shed was added to our Demonstration Farm buildings. Two new granaries were also built for use on the south farm.

Army Cadet Corps.

This fall compulsory military training in the Army Cadet Corps at the School was abolished. No such training is being given this term. The reason for suspending the Army Cadet Corps is that the students enrolled at the School are too old for this training.

Summer Courses.

The following courses of one week's duration were held at the Olds School of Agriculture last summer:

(1) Women's Institute Girls' Clubs with approximately 170 in attendance.

(2) Home and Garden Clubs with approximately 78 in attendance.

(3) Junior Club Week (Farm Clubs) with approximately 73 attending.

(4) Farm Women's Week with approximately 180 women registered.

(5) Dormitory Cooks' and Nutritionists' Course with approximately 32 attending.

(6) Special Sewing Course supervised by Miss Helen Moseson of the School staff.

The staff of the Olds School of Agriculture together with assistants from the Department of Agriculture provided lectures and special demonstrations for these courses. Tests were given at the end of the weekly courses for the juniors and scholarships awarded as follows:

Junior Farm Clubs:

Grain (4 scholarships of $75.00 each):
Aileen Strandberg, Clive Junior Oat Club.
Calvin McGhee, Drumheller Junior Wheat Club.
Howard Roppel, Rockyford Junior Wheat Club.
Alfred Peterson, Wayne Junior Wheat Club.

Live Stock (4 scholarships at $75.00 each):
Derick Braun, Gem Junior Beef Calf Club.
Courtney Gimbel, Avondale Junior Beef Calf Club.
Lenard Koster, Gladys Ridge Junior Beef Calf Club.
Claire Burr, Lethbridge Junior Beef Calf Club.

Home and Garden Clubs (2 scholarships of $75.00 each):
Audrey Racher, Champion.
Mary Soley, Red Deer, R.R. No. 4.

Women's Institutes Girls' Clubs (one scholarship of $75.00):
Miss Helen Lange of Millet won this scholarship.

These scholarships are tenable at either Olds or Vermilion in 1946-47 or 1947-48.

Farm Women's Rest Week was again very successful with as many present as could be properly accommodated. Even though a Farm Women's Rest Week was held at Vermilion as well this year,

a goodly number of applicants had to be turned away from Olds. A special feature of this week was the visit one morning at the Fogelvik Farm of the late Andrew Anderson of Innisfail. Mr. James Murray, former principal at Olds, is in charge of this farm and he, together with Mrs. Murray, proved delightful hosts for the visit of the farm women. Other highlights of the programme were talks by J. Harper Prowse, M.L.A., and Miss Maimie Simpson, Dean of Women at the University of Alberta.

The Convention of the Alberta Home and School Association was again held here shortly after the close of the spring term. About 150 delegates were present from all parts of Alberta.

Summer Work of Staff.

Mr. Patching was attached to the Junior Activities Branch of the Department of Agriculture at Edmonton for the summer. Mr. Gordon also gave considerable assistance to Junior Club work. Mr. F. F. Parkinson again was attached to the Extension Service of the Department of Agriculture, where he lectured and demonstrated at Farm Machinery Field Days throughout the Province. Mr. Malyon was fully occupied doing test work for the Dairy Branch under Dairy Herd Improvement.

Teachers in the Home Economics Department devoted much of their time to Extension work in co-operation with the Extension Service of the Department of Agriculture. Some of the summer work carried on by Messrs. Kemp and Yauch is reported below.

Report of experimental work conducted from the Olds School of Agriculture during 1946 by C. E. Yauch:

Gray Soils.

Fertilizer and variety tests of grain were continued during 1946. Plots were put out at Kevisville, Garrington, Sundre and Cremona. The variety tests at Sundre were conducted in co-operation with the Cereal Division, Ottawa, and the University of Alberta. The yields from the Cremona and Kevisville plots are reported. The plots at Garrington were destroyed by cattle late in the season.

As reported previously, there is a marked sulphur deficiency in most of the soils under test. Legumes especially respond to applications of sulphur. A marked increase in the yield of alfalfa was obtained twelve miles north of Olds in the black soil zone.

Farmers themselves are using gypsum in quite large amounts as the source of sulphur. One small store northwest of Olds distributed 60 tons of gypsum in the spring of 1946.

Grain crops are now being grown on many of the fields which were in alfalfa and other legumes. The yields are proving to be quite satisfactory.

Field days were held at Garrington and Sundre.

Black Soils.

A fertilizer test was conducted on the plots at the School of Agriculture, yields of which are reported.

Variety and Fertilizer Tests of Oats and Barley on Gray Soils.

Each plot consisted of four rod rows. Each variety was seeded in duplicate. The two centre rows were harvested for yield.

The average yield of the duplicate plots in bushels per acre is reported.

	Kevisville	Cremona
BARLEY:		
Olli	60.4	54.7
Olli plus 16/20 at 80	65.1	65.1
Titan	46.6	46.8
Warrior	41.6	42:3
O.A.C. 21	44 5	62.6
Newal	46.2	52.4
OATS:		
Ajax	40.0	56.4
Larain	41.0	56.5
Larain plus 16/20 at 80	53.9	53.2
Mabel	52.3	51.7
Eagle		Too late
Brighton		27.4
Legacy	66.1	61.2
Beaver		51.5

As was the case in 1945, the Olli barley has yielded very well, and it appears to have a definite place in the area under study.

Fertilizers on Forage Crops.

Edgar Johnson Farm, Sundre (Mound).—The forage plots are included in a five-year rotation being conducted on this farm. The rotation is fallow, grain seeded down, hay, hay and break, grain. It has been going for five years. Fertilizers are applied twice to a hay crop.

The yields are reported in pounds per acre of air-dry hay.

Column 1, 1945 yield for 1944 seeding; Column 2, 1946 yield from 1944 seeding; Column 3, 1946 yield from 1945 seeding.

TREATMENT:	One	Two	Three
East check	1,760	1,382	3,530
Superphosphate at 150	2,170	4,040	2,920
2-16-6 at 100	2,445	3,410	3,580
Centre check	1,650	1,950	2,280
Manure—phosphate	3,090	3,820	4,350
Manure only	2,290	2,760	3,410
Gypsum at 100	2,740	4,940	3,240
West check	745	985	1,255

It should be noted that the addition of 100 pounds of superphosphate to the manure plot increased the average hay yield by 933 pounds. The grain plots following this treatment have also been better than any of the others.

Harry Anderson Farm, Sundre.—Hay yields from 1944 seeding: Check, 1,740 lbs.; Gypsum, 4,640 lbs.; 2-16-6 and S, 3,570 lbs.; 16-20, 3,460 lbs.

R. Lundgren Farm, Kevisville.—Gypsum was applied to the alfalfa field in 1945, but none in 1946. Hay yields were taken from two cuttings in 1946.

	1st cut	2nd cut	Total
Check	905		905 lbs.
Gypsum	4,840	2,340	7,180 lbs.

Pete Christiansen Farm, Kevisville.—Alfalfa yields:

	1st cut	2nd cut	Total
Check	1,490	980	2,470
Gypsum '45	3,050	1,490	4,540
Gypsum '45 2-16-6 '46	4,000	1,730	5,730

W. Graham Farm, Cremona.—Hay yields from 1945 seedings of forage crops:

	Alfalfa Timothy	Alfalfa Brome	Timothy
Check	3,300	2,870	3,330
Sulphate	4,070	4,020	4,690

W. Mills, Bowden, 12 miles north of Olds.—This field of alfalfa seeded in 1944. Elemental sulphur applied at unknown rate in 1944 only. The 1946 yield for first cutting is reported:

Check	1,770 lbs.
Sulphur	4,530 lbs.

Pasture Trial on A. Boehne Farm, west of Bowden.—The plan was to fence off a part of a pasture for a period of two weeks by means of an electric fence. At the end of each two weeks the fence was to be moved to a new location. The test did not get started until late in the season, and in midsummer the electric fence failed to keep the stock out. Two cuttings, however, were taken, and in each case represents about two weeks production.

Alfalfa-timothy mixture, pounds per acre:

Date	Check	2-16-6 & S.	Amm. Sulphate
July 3	165	930	950
July 18	160	532	495
Total 2 cuts	325	1,462	1,445

Fertilizer Trials at the School of Agriculture, Olds.

Several kinds of fertilizers at different rates were tried at Olds on oats seeded in rod-row plots in four replications. It was evident during the growing season that none of the treatments were better than the check plots. Two or three weeks before harvest the plots lodged and may have produced errors in sampling. The yields from wheat and barley plots treated with 11-48 at 50 lbs. only are also given in bushels per acre. The yields from the check and 11-48 at 50 lbs. plots are reported.

	Rep. 1	Rep. 2	Rep. 3	Rep. 4	Average
OLLI BARLEY:					
Check	60 5	65.0	64.0	65.2	63.6
11-48 at 50	88.0	89.0	58.4	66.3	75.4
GARNET WHEAT:					
Check	65.2	51.0	69.6	60.8	61.5
11-48 at 50	62.5	78 5	62.5	54.5	64.5
LEGACY OATS:					
Check	115	168	116	163	150.5
11-48 at 50	103	179	153	145	145.0

Summer Work Conducted at the Olds School of Agriculture During 1946 *by A. T. Kemp.*

Quite a considerable portion of the land originally used for experimental work must of necessity be utilized to grow winter vegetables for dormitory use because of the large attendance of students. For example, approximately five acres of potatoes alone were grown for that purpose. Yet, with the growing of them considerable experimental data has been obtained. The results up to and inclusive of 1945 were published in the 1945 report. Along with the above are certified and registered seed for production as potato eyes to be distributed through the Experimental Union.

With field crops in general, there is the co-operation given to the Zoning Committee, of which a brief tabulation of the outstanding varieties of cereals are here given. For further details regarding description, see circular "Field Crop Varieties for Alberta".

WHEAT

Variety	Days to Maturity	Bushels (Aver. yield)	M.B. Weight
Red Bobs	117	60	64
Thatcher	119	63	63
Marquis	123	59	64
Redman	119	65	64
Rescue	118	64	64

NOTE: Rescue graded No. 3N. (one year only for these two varieties)

BARLEY

Variety	Days to Maturity	Average yield Bushels	Weight per measured bus.	Smut Loss
Olli	94	84	48	20%
O.A.C. 21	100	74	48	3%
Montcalm	104	68	48	15%
Newal	99	80	48	35%
Sanalta	102	80	50	3%
Titan	99	72	48	3%

OATS

Variety	Days to Maturity	Average yield Bushels	Weight per measured bus.
Ajax	115	135	40
Eagle	121	134	41
Victory	122	130	41
Larain	112	114	44
Legacy	115	130	40
Brighton	119	109	49

PEAS

Variety	Days to Maturity	Average yield	Vine Lengths (inches)
Chancellor	128	38	36
Arthur	121	51	36
Japanese Sweet Wrinkled	127	50	36
Idabelle	130	59	28
Early Blue	123	59	25

NOTE: Alaska is recorded under Horticultural varieties.

FLAX

Variety	Days to Maturity	Average yield Bushels	Weight per Measured bus.
Red Wing	112	30	57
Bison	121	27	55
Royal	126	20	55

Creeping Red Fescue.—The work commenced in 1932 with a small amount of seed from the Dominion Seed Branch continues to occupy considerable attention and occupies several large blocks of land. This work has been a profitable undertaking for some growers in certain districts of Alberta. In 1944 an experiment was started on rate of seeding and row spacing:

Block	Spacing	Rate of Seeding	Seed Yield in lbs. per acre 1945	1946	Average
1	8″	4	340	487	413
2	12″	3	240	496	368
3	18″	2	232	471	356

As the rows have not yet grown into each other, the experiment will be carried in 1946 and perhaps longer in order to determine how long a field will profitably produce seed. Anticipations are the 8″ spacing will show a decrease yield from now on, and the 18″ spacing will climb upwards.

The Grounds.

Changing conditions bring new changes to our environment. Particularly due to increased motor traffic and resulting congestions which had repeatedly occurred on the driveway in front of the dormitory, it was decided to make a new connecting link by a curved driveway from the front to the rear of the residence. This would act as a parking space to enable cars to get quite close to the newly built skating rink. The gravelling of this and other roads was one of the improvements carried out by the co-operation of the School staff.

The grounds continue to attract a large number of visitors. New plantings for educational purposes still continue to be the policy, having, as it does, the aim of encouraging better farm homes.

O.S.A. Experimental Union.

This project was first mooted in the early days of the O.S.A. when students were encouraged to experiment with various kinds of cereals on their farms. Started as a minor project, it has now became a major undertaking. By payment of a small fee, not only students but anyone else interested may become a member and choose from a list published yearly, a number of selections to experiment with and report on same at the end of the growing season. Naturally, only a certain number reply or fill out any

report forms, but there are at hand some 250 reports to date, along with which are many questions relating to field and garden crops. In 1946, approximately 400 parcels of seeds, plants and cuttings were sent out to practically all parts of Alberta. The reports sent in serve a useful purpose in that it enables us to get valuable information as to how these plants grow in various parts of the province. We received a few negative reports such as hailed out, dried, frozen, neglected due to circumstances, etc.

This year, probably owing to shortage of seed potatoes, the demand for potato eyes was in excess of 300. The reports returned indicate the majority are being saved for planting. As this was disease free stock, the material was well received.

This work serves as a desirable project which helps to give the Olds School of Agriculture contact with the people on the farm.

The School Farm.

The farm consists of approximately 600 acres. It is conducted primarily as a live stock farm with the crops grown being fed to stock. All cream required by the students in residence is supplied by the dairy herd. Considerable of the live stock is slaughtered in the Animal Husbandry classes and used as meat in the dining room. Around 18 head of feeder steers are purchased in the fall to use for judging purposes and killing demonstration. This beef is also consumed through the dining room.

We have three cattle herds—Aberdeen Angus, Shorthorns and Holsteins—all fully accredited. The main function of this stock is for instructional purposes. The flock of Hampshire sheep, though quite small, is of good quality. An average of 200 Yorkshire swine are kept on the farm. There has been a brisk demand for breeding stock from the cattle herds and swine. There has been a keener demand for swine this year than for several past years. A goodly number of hogs are also slaughtered for use in the dormitory.

Our Percheron horses must still be further reduced in number. Some of the Percherons were exhibited at the Calgary Summer Fair, and were later selected to complete the exhibit of Alberta horses to the Toronto Royal Show. In both instances they achieved considerable success.

The artificial insemination work is still centred here, under the supervision of W. H. T. Mead.

Following is the farm production for 1946 at Olds:

	Bushels	
SOUTH FARM:		
60 acres Barley	2,600	
40 acres Oats	3,680	
40 acres Oats	3,000	
		9,280
HOME FARM:		
30 acres Oats	3,200	
23 acres Oats	1,440	
		4,640
		13,920

35 acres Greenfeed on South Farm—50 tons.
86 acres Hay on Home Farm—100 tons.
8 acres Oats—80 tons in silage.

REPORT OF SCHOOL OF AGRICULTURE, VERMILION

(N. N. BENTLEY, *Principal*)

Opening in the fall of 1945 after having been closed for a period of four years, only First Year courses in Agriculture and in Home Economics were offered for the 1945-46 term but during 1946 the complete programme of regular courses was re-established with the largest registration in the history of the School.

Immediate post-war conditions with the release of military personnel and general agricultural prosperity were contributory factors in creating an unprecedented interest in Agricultural Schools. Although recognition of the value of Agricultural education is becoming increasingly apparent, undoubtedly many of the applications and enquiries were due to training benefits available to ex-service personnel and to the fact that many older farm boys whose education had been curtailed by critical labour requirements at home during the war years were anxious to take advantage of the opportunities offered by the Schools of Agriculture.

In comparison with former years a much larger proportion of applications were received for the courses in Agriculture than for those in Home Economics. Apparently farming prospects were sufficiently attractive to encourage young men to invest in specific training for vocational agriculture while the "Homemakers" course did not appeal to a proportionate number of young women who could choose other training to qualify for positions offering reasonably attractive immediate employment. The desirability of giving more publicity to the eventual advantages of the Home Economics course is indicated.

The 1945-46 *Term.*

Registrations were restricted to 80 students in the Agriculture Course and 40 students in Home Economics of whom 76 boys and 38 girls completed the term.

In spite of the fact that there were no Second Year nor "Two-in-One" students in attendance, an active extra curricular programme including social, literary and athletic activities was conducted under the Students' Union. Special events included: A Visitors' Day and Alumni Re-Union, an Achievement Day and Live Stock Show, Closing Exercises.

Sunday morning chapel services and Saturday evening social activities were customs of former years quickly re-established.

Generous support in the form of scholarships and prizes was given by many business firms who made available the most attractive listing of awards in the history of the School. Thirteen scholarships having a value of $700.00 and special prizes valued at over $300.00 for outstanding achievement were awarded.

Donors of scholarships included: The United Grain Growers; The United Farmers of Alberta; The Alberta Seed Growers' Association; The Vermilion Board of Trade; Craig Bros., Vermilion; The V.S.A. Alumni Association; The Alberta Women's Institutes.

Prizes were awarded by: Johnstone Walkers Limited; The T. Eaton Company; The Robert Simpson Company; The Alberta Live Stock Co-operative; The Alberta Poultry Producers; The British-

American Oil Company; Boake's Drug Store, Vermilion; Craig Bros., Vermilion; Long's Drug Store, Vermilion; Columbia Theatre, Vermilion; Northern Hardware, Vermilion; Nelson-Hill Hardware, Vermilion; Stephens Limited, Vermilion; Wiebe's Bakery, Vermilion; Housez Studios, Edmonton.

Confirmation has been made of the availability of these awards and several additional ones for the 1946-47 term.

The Summer Programme.

Short Courses presented during the summer included:

Farm Women's Week, July 1st to 5th.
Junior Farm Club Week, July 8th to 13th.
Girls' Club Short Course, July 15th to 20th.
Boys' and Girls' Short Course and Camp, July 22nd to 27th.
Alumni Short Course and Re-union, July 27th to Aug. 3rd.

Although the announcement and publicity in connection with Farm Women's Week was delayed due to difficulty in securing the necessary personnel for the operation of the Dormitory, 57 women attended. Undoubtedly a much larger number would have registered if the announcement had been made earlier. Valuable assistance in preparation and presentation of the programme was given by the Women's Extension Service, Department of Agriculture, Edmonton.

The scholarship short courses for Farm Clubs and for the Girls' Clubs were held separately with approximately 70 boys and 60 girls in attendance. Assistance with the direction and presentation of the courses was given by the Junior Club Supervisors.

The Boys' and Girls' Camp in connection with the Vermilion Fair was enlarged to include an Agricultural Short Course for the boys and a course of instruction in home economics subjects for the girls. Formerly duration of the camp had coincided with the Fair and occupied only three days. The short course and six-day programme proved highly successful. The one hundred boys and girls who attended obtained a much better grasp of the regular function of the School. Entries in special classes at the Fair were prepared under supervision and formed an attractive display.

The refresher course for former students was another innovation which proved highly satisfactory. Although only 37 registered for the full week they expressed keen appreciation of the opportunity to return to the School and to study topics in the summer which could not be so effectively presented during the winter months. Their numbers were increased during the week at the end of which the annual meeting of the Alumni Association was very well attended. The Alumni banquet was attended by 160 persons and over 350 were at the dance.

In addition to responsibilities associated with the summer sessions described above, members of the staff engaged in a variety of other activities. The Home Economics Instructresses were employed with the Women's Extension Service devoting particular attention to Girls' Club work. The Instructors in Farm Mechanics conducted a series of Farm Machinery field days throughout the central part of the province while the other Instructors spent considerable time as guest speakers and judges at various rural meetings and agricultural fairs.

Special events at the School included:

The Alexandra Constituency Convention of the Alberta Women's Institutes.
Vermilion District Junior Clubs Field Day.
A Farm Machinery Field Day.
The Vermilion and Vegreville District Teachers' Convention.
District Shorthorn Breeders' Meeting.
District Hereford Breeders' Meeting.
Beekeepers' Annual Meeting and Field Day.

The 1946-47 Term.

Plans by the Town of Vermilion to install a sewage system appeared to make possible the use as an auxiliary dormitory of at least one of the "H" huts constructed during the war by the Department of Defence. Consequently applications from 150 students wishing to enter the agriculture courses were accepted. It later developed that sewage disposal installations would not be made in 1946 and because commitments had already been given to the prospective students accommodation had to be provided for a much larger number than had been considered maximum capacity in the regular dormitory. This was accomplished by using as bedrooms three of the sitting rooms, the two infirmaries and a large room on the fourth floor of the girls' wing. Delays in the delivery of beds and bedding, necessitated postponement of the registration of the "Two-in-One" class for a period of three weeks. However, a total of 214 students were eventually enrolled and although crowded were reasonably comfortable.

Distribution of students according to classes was as follows:

AGRICULTURE:		
First Year	56	
Second Year	54	
"Two-in-One"	32	
	—	142
HOME ECONOMICS:		
First Year	35	
Second Year	27	
"Two-in-One"	10	
	—	72
Total		214

This number included 27 ex-service personnel of whom 24 were men and three were women. All these were receiving training benefits from the Department of Veterans' Affairs at the rate of $60.00 per month for single and $80.00 per month for married men. The ex-service men were somewhat older than the majority of the other students and made a very fine contribution to all phases of student activities.

The Teaching Staff.

Several replacements due to resignations and several additions because of the enlarged enrolment and scope of the courses offered were required in 1946. Mr. J. J. Paterson who resigned to accept a position as Assistant Professor of Agricultural Engineering at the University of Manitoba was replaced as Instructor in Farm Mechanics by Mr. S. C. Acheson, B.S.A., who had served on the staffs of the Raymond School of Agriculture and the Edmonton Technical School. Miss E. Anderson resigned as Instructress in Nutrition and Cooking because of her marriage. This position was filled by Miss Fay Rodney, a graduate of the University of

Alberta who transferred from work as District Home Economist at Camrose.

Mrs. Emma Acheson who had served in a temporary capacity as Dietition and Dean of the Girls' Residence was not again available due to the return of her husband from war work. Miss Margaret G. Lang was then appointed to this position and with the appointment of Miss Margaret Brown as Dormitory Supervisor, Miss Lang assumed additional duties as Instructress in Household Administration and Handicrafts. Miss Dorothy Taylor, R.N., was appointed as Instructress in Home Nursing, replacing Miss F. F. Armstrong.

The resignation of Mr. P. A. Alt as Accountant led to the appointment of Mr. J. R. Roxburgh to this position.

Mr. J. E. Hawker, B.A., B.Sc., was transferred from the Science work to instructor in Botany and Horticulture while retaining the position of Dean of the Men's Residence.

Additional appointments included: Mr. C. M. Hay, B.Sc., Instructor in Science; Mr. N. A. Chomyc, B.Sc., Assistant Instructor in Field Husbandry; Mr. N. A. Moisey, Shop Assistant in Farm Mechanics.

The Department has been exceptionally fortunate in obtaining the services of a staff which, in addition to possessing the abilities to meet the various academic requirements, has been able and willing to devote a great deal of their time and attention to the direction of a multiplicity of extra-curricular activities associated with a residential school where social, literary and athletic development of the students is so valuable.

The School Farm.

Under the management of J. L. Kerns, B.Sc., Instructor in Animal Husbandry, considerable attention was given to organization of the farm and integrating it with the essential functions of the School. The 450 acres of land under cultivation are being used principally to produce feed for the live stock including poultry, beef cattle, dairy cattle, horses, sheep and swine. Except for a fine breeding flock of Suffolk sheep the chief purpose of this stock is to provide classroom material for the courses in animal husbandry. A large part of the meat and eggs and all of the milk required by the School dormitory are produced on the farm and provision is made for the students to observe and, in some cases, to gain experience in farm practices, particularly live stock feeding and management, showmanship, butchering, milking and care of the dairy.

Studies in the care and repairing of machinery are conducted in the Farm Mechanics classes and outdoor demonstrations are featured by several of the summer courses.

During 1946 disposal was made of several pieces of obsolete machinery and considerable repairing and re-conditioning was done. New purchases included a tiller and a hydraulic "Farm Hand" Sweep-stacker.

The practice of borrowing purebred beef cattle from neighbourhood breeders begun in the fall of 1945 proved entirely satisfactory and was continued for the 1946-47 term. This arrangement permitted the use of a greater variety of breeds and types for classroom purposes without a large investment by the Department.

Excellent co-operation was received from district breeders whose animals were fed, cared for and trained while at the School during the winter months.

Extensive repairs to farm fences, the dairy and hog barns were made; a milking machine was installed and the farm milk house was fitted to pasteurize the milk supplied to the dormitory. However, the fitting and equipping of a farm repair shop and further repairing and painting of the farm buildings are urgently required.

The School Grounds and Buildings.

The grounds, orchard and field crops demonstrations plots presented a considerable problem in the spring of 1946 because during the previous four years they had not received the attention required to maintain the appearance they should present to the visiting public, and could not serve the purposes desired in relation to the summer programme. However, very good progress in this direction was made under the supervision of Mr. J. E. Hawker.

Re-arrangement of the entrance, parking area and driveways effected a marked improvement. Many of the trees and shrubs that had outgrown their usefulness were removed and numerous new plantings were made. A considerable quantity of the vegetables required for the dormitory were produced on the grounds. Re-juvenation of the lawns, pruning of the orchard and reclamation of the weed infested areas resulted in a much improved appearance but this work will require another season to reach a satisfactory condition.

The major construction work conducted by the Department of Public Works consisted of the building of three, four-roomed staff residences on the campus. The critical housing shortage and the demand for accommodation by new members of the teaching staff necessitated this project, but the work, begun in May, carried on through the summer and into the winter, possession by the third family being obtained only on December 21st. Stuccoing of these as well as other buildings was deferred.

Repairing of a house for a farm staff family, some progress towards fitting a two-room apartment in connection with the cooking laboratory and refinishing part of the fourth floor of the Boys' Residence were also included in the Public Works programme, but the fact that none of these projects were completed when the regular term opened in the fall led to considerable inconvenience and dissatisfaction.

Principal immediate requirements include sidewalks to serve the various School buildings, repairs or replacements to the roofs and eavestroughing of the College and Dormitory buildings, stuccoing of the blacksmith shop and installation of a ventilation system in the Farm Mechanics building to take care of fumes from gasoline engines operated in the Farm Motors classes. Wash rooms in the dormitory that could not be used should be made serviceable, and completion of the water and sewage system in connection with the town project will solve problems that have been outstanding for a number of years.

REPORT OF THE SUPERINTENDENT, SCHOOLS OF AGRICULTURE AND HOME ECONOMICS

(S. H. GANDIER)

In addition to the Provincial Schools of Agriculture and Home Economics, this Branch has associated with it the Junior Live Stock and Crop Clubs, also agricultural short courses for farm youth conducted under provisions of the Dominion Alberta Youth Training Agreement. As this is a comparatively new Branch, having been established in the summer of 1945, in some respects its organization and certain of its activities have yet to take more definite and permanent shape.

In June, one replacement in headquarters staff became necessary with the appointment of F. N. Miller, Supervisor of Junior Clubs, to the Principalship of the Olds School of Agriculture upon the retirement of Principal James Murray. To fill the vacancy thus created, Mr. G. S. Black was transferred to this Branch from his former position of Live Stock Promoter with the Live Stock Branch. A number of replacements and additions to the teaching staffs at the Schools of Agriculture were made prior to the opening of the fall term, and these are recorded in the reports of the School Principals.

The Schools of Agriculture and Home Economics.

As the title of these schools implies, they offer courses for the benefit of both the young men and young women of Alberta's rural communities whose intention it is to pursue farming and farm homemaking as their life's vocation. Reference might here be made to the brief history of the schools contained in the report of this Branch for 1945, which traces their development from the smaller schools without dormitories first established in 1913, to the two larger residential schools now operating at Olds and Vermilion, where the dormitory capacity of each school is approximately 200 students.

The Schools of Agriculture now appear to have entered upon a new chapter of their career, this having been brought about by post-war conditions. Through the war years of 1941 to 1945, the School at Olds carried on alone, the Vermilion plant being appropriated by the Department of National Defence for training purposes and used as such for three years. By the summer of 1945 the number of applications for admittance to Olds had so increased that it became quite essential to re-open the Vermilion School for the 1945-46 term. Three months before the opening of the regular term this fall both schools had received more applications than could possibly be accepted. By opening date upwards of 250 applications had to be refused. This condition was anticipated early in the year when minimum age for entrance was raised from 16 to 17 years. Early in August all applications were pooled and reviewed by an Applications Committee. It was considered expedient to reject those applicants for first year agriculture who would not reach their eighteenth birthday by the opening day of the term, thus permitting registration of a larger percentage of older boys. These 17-year-olds are to be allowed some priority of entry next fall. Another factor

to complicate the acceptance of younger applicants was the comparatively large number of applications from ex-service men, who for the past couple of years have been granted certain priority over others. About 60 ex-service personnel were admitted this year, several of whom are women. The majority are receiving educational benefits provided through the Department of Veterans' Affairs.

The unprecedented rush of applications this year raises the question of expansion of the schools to meet this condition. Whether it is a temporary condition that will find its natural level when post-war problems become more permanently settled is a matter of conjecture. Doubtless there are many farm boys who, during the war years, postponed their attendance at the schools until such time as they could be spared from the farm, and now their applications are coming forward. Applications from ex-service men are probably at their peak and are likely to decrease sharply. Probably two stimulating factors are a season of good crops generally and reasonably good prices for all farm products. Be that as it may, the present much increased demand for training offered by the Schools is a matter of great concern, and the Department of Agriculture, through the Board of Agricultural Education, now has under advisement additional accommodation at the present schools and possibly the establishment of a third school. Further mention is made of this in the section of this report that deals with the Board above-mentioned.

Both during the war and since its close most educational institutions have experienced difficulty in keeping their staffs fully manned. The Schools of Agriculture are no exception to the rule. With the re-opening of the Vermilion School in 1945, a new staff was required for that institution, also several replacements in the past two years for the staff at Olds. As only first year students were admitted at Vermilion for the 1945-46 term, a full teaching staff was not required there until the fall of 1946, when second year and two-in-one classes also were resumed. Only a comparatively small number of graduates in Agriculture and Home Economics with teaching qualifications have been available to fill these positions, and to find new instructors has presented a serious problem. Several appointees this year are men and women recently discharged from the Services, and for the current term the staffs were eventually brought up to strength with the kind co-operation of the Department's Extension Branch, which has temporarily loaned a number of its regular field staff. This situation, as in other fields of employment, probably will readjust itself as post-war conditions become more permanently settled. In the meantime some branches of the school work are carrying on in a more or less temporary fashion until permanent appointments may be made. Much credit is due the principals and their present staffs for the very efficient manner in which the schools have continued to operate in the face of many post-war difficulties.

It is worthy of note that the Schools of Agriculture are being used more and more as centres for agricultural and educational meetings, conferences and conventions during the spring and summer months when the dormitories are not occupied by students. This is very desirable, as it renders a valuable service to a number of worthy provincial and district organizations, and also brings the schools and their work to the personal attention of many prominent

citizens from all sections of the country. Further reference to the schools as meeting centres will be found in the principals' reports.

Summer employment of school staff has always been a matter of some concern to the Department. Part of the staff have their permanent duties at the schools through the summer on the farm, on the experimental plots, school grounds and gardens, and in the laboratories. It has been necessary to assign others to a variety of field work through the Province when not required at the school for the summer short courses in July. This uncertainty of summer work has been a source of some dissatisfaction at times to both the Department and the staff members concerned, and has hindered permanency of staff. Work to which instructors were assigned through the past summer included: tillage and farm machinery field days and other agricultural meetings and demonstrations under the direction of the Extension Branch; preparation of plans for farm buildings and labor-saving devices; supervision of forage crop experiments on the grey wooded soils; conducting milk and cream tests for dairy herds under direction of the Dairy Branch; assisting with the activities of Junior Crop and Livestock Clubs and judging at the club fairs; conducting meetings and demonstrations on women's work and household topics under direction of the Women's Extension Service; conducting short courses at boys' and girls' camps held at the "B" class fairs.

The Olds School.

Brief reference has already been made to the retirement in June of Principal James Murray. Mr. Murray retired on superannuation after 24 years of service with the Department, and for a number of years previously had been manager of the Noble Foundation Farms at Nobleford. During his long period of service in Alberta, Mr. Murray has made a valuable contribution to the farming industry of the Province and to the development of the Schools of Agriculture.

Mr. Murray's successor at Olds is Mr. F. N. Miller, who was promoted from the position of Supervisor of Junior Clubs with this Branch. He is a graduate of the University of Alberta, served for several years as a high school instructor, then as District Agriculturist for the Edmonton District before his appointment to the Junior Club work in 1945. His recent appointment to Olds is of more than passing interest to Olds students and ex-students, as he is a graduate of the School to which he now returns as principal.

The dormitory is again filled to capacity for the current school term which opened on October 22nd, and as already noted many applications had to be refused. This was also the case with the Farm Women's Short Course in July, which has become exceedingly popular with the membership of women's rural organizations. Further details of registration in both the regular fall and winter courses and the summer courses are given in the principal's report.

Various improvements and renovations were made through the summer in the buildings and on the campus. Some of this work included the laying out and gravelling of new roads, some new cement walks, reseeding of lawns, preparing ground for a bowling green, boring of another well to augment the water supply, installation of heavier electric wiring in the dormitory, redecorating the dining hall and interior of the principal's house. Under new construction might be mentioned a new green house which, unfortunately, is not usable this winter as glass for its completion

could not be obtained. The extension to the carpentry building which was planned for this year was abandoned in favour of the erection of a new building that will meet present needs more adequately. It is planned that the new shop will be erected next summer in readiness for the next school term.

(See principal's report for further particulars re Olds School.)

The Vermilion School.

This School now has the largest registration in its history. Enrolment at the opening of the fall term was 214. A somewhat larger registration had been planned, but numbers had to be reduced when it was found impossible to have water service and sewage disposal installed in one of the army barracks before winter set in. When the School was re-opened in 1945, only first year students were admitted. It is now functioning normally with its full complement of classes.

The usual summer courses were resumed in July, being the first to be held at Vermilion since the summer of 1940. A new short course added to the summer schedule was a refresher course of one week for ex-students, which closed with the annual Alumni Reunion.

A number of new appointments were made to the staff in order to bring it up to the full strength required for the present large registration. These are listed in the principal's report.

As the school plant was re-established as a School of Agriculture just a year and a half ago after being used for some time as a C.W.A.C. training centre, much work on the buildings and grounds still remains to be done to restore them to their original purpose and to convert some of the army buildings to school use. A good deal was accomplished during the past year, and the following main items might be mentioned. A western entrance from the highway was constructed, also a driveway to the front entrance of the new mechanics building. These road-building projects were made possible through the co-operation of the Provincial Highways Branch. The long army lecture hall was converted into three separate dwellings for staff families. These new houses have all modern conveniences with full basements and gas heating. They are all occupied and provide very comfortable living quarters for small families. An old dilapidated farm cottage was renovated throughout and cement basement constructed, thus providing needed quarters for the family of one of the farm men. The old seed house was moved from the school grounds to the farm, where it is to be converted into a farm shop. Alterations in the old college building now provide a small kitchen and dining room for the girls' apartment work. Further alterations have been made in the new mechanics building (formerly the army drill hall) for convenience in conducting farm mechanics classes. The fourth floor of the men's residence was given a much needed renovation. At the school farm, a pasteurizer and cooling unit have been added in the dairy, and mangers and stalls on the north side of the dairy barn were rebuilt. The new sewer to connect the school with the town sewage system was only partly constructed and will not be completed until next summer. Considerable further progress was made in reconditioning the orchard, garden and campus areas.

Our report for 1945 mentioned unavoidable delays in purchase and delivery of essential dormitory and class-room equipment under

existing post-war market conditions. Though these conditions have not improved greatly during the past year, many of the shortages were supplied and sufficient further equipment secured to permit the school to operate to its full capacity of students.

(See principal's report for further particulars re Vermilion School.)

The Board of Agricultural Education.

In the report for 1945 was listed the personnel of the Board of Agricultural Education appointed by the Minister under provisions of the "Act to Amend the Agricultural Schools Act," passed at the 1945 session of the Legislature. One replacement occurred during the year with the retirement of Dr. G. Fred McNally, Deputy Minister of Education; his successor as Deputy, Dr. W. H. Swift, was added to the Board. Mr. F. N. Miller, the new principal at Olds, also succeeds ex-Principal Mr. James Murray as an ex-officio member of the Board.

Annual meeting of the Board was held at the Parliament Buildings on June 5th with all members present. Two major items brought forward for discussion were: (1) Plans of the Department of Education in the field of agricultural instruction; (2) expansion programme for the Schools of Agriculture.

The Department of Education now has legislative authority to establish Composite High Schools at selected country centres. It intends to include in the curriculum practical courses in Agriculture and Home Economics for the benefit of country boys and girls who expect to live permanently on the farm. It is proposed that such courses will be integrated with the courses offered at the Schools of Agriculture, with the probability that many high school students will desire to continue to the Schools of Agriculture for the more comprehensive training in agriculture and home-making that they offer. Evidently few school boards have shown much active interest as yet in the Composite High School project, probably because of the capital costs involved.

In view of the larger numbers presently wishing to enter the Schools of Agriculture (see previous mention in this report), the Board discussed at length the needs and possibilities of expansion. A special Investigating Committee composed of three members of the Board was appointed to gather reliable information and to recommend the most desirable point for the establishment of a third school. The Committee visited a number of centres in the Peace River district and the irrigation areas in the south of the Province. The Department has not yet released the Committee's report.

At the close of the annual meeting, seven members of the Board made an inspection trip by motor to the School at Olds and to Western Canada High School in Calgary. Several members individually visited at both Olds and Vermilion at various times during the past year.

The Dominion-Alberta Youth Training Programme, Schedule "E".

During 1946, courses under Schedule "E" of the Dominion-Provincial Youth Training Agreement were confined to the three weeks Farm Repair Schools which have been held each winter commencing with 1942. Eight schools were held last winter in two circuits of four each. A limiting factor in determining number of schools that may be held has been available trained instructors

capable of undertaking the work. Last winter we managed to secure the services of two very efficient men, A. C. Wagner, a retired instructor of the Technical School in Calgary, and L. S. Davis, loaned to the Department for the winter months by the Allis-Chalmers Co., Edmonton. As only one instructor was in complete charge at each repair school, the registration was normally limited to a maximum of 20 trainees, with a minimum of 10. Both instructors did a good job last winter, and successful schools were held at all points. The following table shows centres at which schools were held, dates and numbers in attendance:

CIRCUIT I—A. C. WAGNER, INSTRUCTOR

School Centre	Dates	Trainees
Ryley	Jan. 7 to 25	20
Edgerton	Jan. 28 to Feb. 15	15
Willingdon	Feb. 18 to Mar. 8	18
Falher	Mar. 11 to 29	17

CIRCUIT II—L S. DAVIS, INSTRUCTOR

School Centre	Dates	Trainees
Legal	Jan. 7 to 25	26
Thorhild	Jan. 28 to Feb 15	24
Innisfail	Feb. 18 to Mar. 8	15
Carbon	Mar 11 to 29	15

The Advisory Committe on Schedules "A" and "E" met on December 16th, when it was decided that the repair schools would be discontinued for the current winter. This decision was reached by reason of improving conditions with respect to available new farm machinery and repair parts and a consequent waning interest in these schools. The Committee recommended that assistance shall be given under Schedule "E" to civilian trainees in the five months Dairy Course at the University, to encourage the training of much needed creamery workers. Re-opening of the three weeks schools in Agriculture and Home Economics at country points under "Schedule "A" was also recommended for the fall of 1947. It was proposed that the Farm Repair Schools of Schedule "E" might be integrated with the Farm Mechanics instruction of the Schedule "A" schools when they are reopened.

Junior Clubs.

Reference has already been made to the appointment of Mr. G. S. Black to succeed Mr. F. N. Miller as Supervisor of Junior Farm Clubs. Mr. Black is a veteran employee of the Department, and on his return in 1945 from service with the R.C.A.F. he assumed his former duties of Live Stock Promoter, but was transferred to his present position in July. In the earlier days of club work in the Province, he directed the organization of live stock clubs, and having served also as a District Agriculturist for several years, he brings to his present duties an unusually valuable experience. Mr. Black has the overall supervision of the junior live stock and crops clubs, while junior clubs in girls' work come under the direction of the Women's Extension Service.

Junior club work in Alberta has now developed to a point that demands more detail of organization and more field assistance to the District Agriculturists, who are responsible to the Department for the direction of club work within their individual districts. Another factor to be considered is the growing active interest of certain agricultural industries, commercial concerns and grain and live stock organizations, which must be properly integrated with the junior club programme as laid down by the Department. With these conditions in mind, some reorganization of beef-cattle and swine

projects was recently approved and will become effective with the 1947 clubs. Another progressive step was the appointment of an Advisory Council on live stock club policy with representation from interested commercial concerns, live stock associations and the Department.

Details of the year's activities with junior live stock and crops clubs will be found in the report of the Supervisor of Junior Activities. The Girls' Home Economics and Garden Clubs are dealt with in the report of the Extension Branch.

REPORT OF THE SUPERVISOR OF JUNIOR ACTIVITIES AND YOUTH TRAINING

(G. S. BLACK)

The duties of the Supervisor of Junior Activities and Youth Training were taken over by the present incumbent on July 1st, 1946, Mr. F. N. Miller, who had been in charge of this division of agricultural extension work, having been promoted to the principalship of the Olds School of Agriculture.

For the period until the opening of the school term at Olds, I was fortunate in having the assistance of Mr. Edwin Patching, who assisted in grain club work, and at the same time Mr. W. C. Gordon, also of the staff of the School of Agriculture at Olds, who contributed to work in connection with the live stock division of junior club work.

There is a marked increase in the interest being shown across Canada as well as our own Province in Rural Youth Education. There will undoubtedly be a period of expansion excelling all previous records in the number and variety of Junior Agricultural Clubs. The field for expansion and development is rapidly opening up. Canadian youth in many cases view with increased favour the possibility of agriculture as a vocation, and as being less concerned with city life as of former years. A decided trend is noted in the thirst for agricultural education of all kinds, and Junior Rural Clubs can form an important part in the future development of agriculture within this Province.

Junior Farm and Home Clubs.

It was interesting to note at the Dominion contests at Toronto the keen spirit of initiative and the thoroughness of the work being done by the junior competitors. The value of the work accomplished in past years reflects the solid foundation laid in the beginning. Much study is being given to ways and means of expansion in the future by members of extension services in the various provinces and those in charge of junior activities. Industrial firms and co-operative organizations have shown an increased interest in supporting Junior Farm Clubs across Canada. In all, the picture is one worthy of all possible thought in developing and better educating the rural youth of our land.

The following table of figures shows the number of clubs and respective membership for 1939, 1944, 1945 and 1946:

	No. of Clubs				Membership			
	1939	1944	1945	1946	1939	1944	1945	1946
Live Stock Projects:								
Swine	30	12	7	1	612	219	131	21
Beef	22	42	47	56	551	888	942	1062
Dairy	10	11	15	14	258	213	336	380
Poultry		10	5	2		168	67	26
	62	75	74	73	1421	1488	1476	1489

	No. of Clubs				Membership			
	1939	1944	1945	1946	1939	1944	1945	1946
Crop Club Projects:								
Wheat	74	19	21	34	1260	315	366	581
Oats	23	26	19	24	296	427	333	435
Malting Barley	7	9	8	1	98	107	158	10
Feed Barley		17	7	11		262	94	117
Olli Barley				4				65
Potatoes		3	2	8		48	24	124
Flax	1	1			9	14		
Forage Crops		19	14	10		340	224	170
	105	94	71	92	1663	1513	1199	1502
Projects for Girls only:								
Garden Clubs		14	19	27		190	288	373
Home Economics		56	72	68		791	1173	956
		70	91	95		981	1461	1329
SUMMARY								
Live Stock Projects	62	75	74	73	1421	1488	1476	1489
Crop Club Projects	105	94	71	92	1663	1513	1199	1502
Projects for Girls		70	91	95		981	1461	1329
	167	239	236	260	3084	3982	4136	4320

Beef Calf Clubs.

Beef feeding clubs remain the most popular junior live stock project. The emphasis is still present with respect to the production of finished beef, and the encouraging support from buyers continued to keep the interest at a high pitch. This year, 56 beef clubs completed their year's work as compared to 47 in 1945. Very active support continues to be given freely by the various breed associations and numerous other organizations.

There is a distinct improvement noted in the quality of the top calves at practicall all fairs. One example being the Angus calf exhibited by William Armstrong of Vermilion, which later was shown at the Toronto Royal and won first in its class. There are, however, too many calves being exhibited and offered for sale, not only of inferior type, but also decidedly unfinished. Calves of this type and condition not only reduce the average price received at the sale, but as well discourage buyers and may have a decided influence on the price bid on all future sale calves. Buyers assert that regardless of the price they bid, the animals when killed must dress a high percentage of high quality meat to justify over market bidding. With the return of tires and the discarding of gasoline rationing, better supervision of these clubs should be possible in the future.

The holding of multiple club fairs and sales continues to increase in numbers. These co-operatives endeavour to encourage more car lot buyers who would otherwise not be present.

Despite the continued good prices, an average of 18c per pound being received at all sales, consideration should be given to the possibility of future lower prices, and the eliminating of clubs in areas which in normal times do not market many beef cattle. Such consideration and action would prevent a severe decline in beef club activities when we return to more normal conditions.

Mr. W. C. Gordon, instructor in Animal Husbandry at the Olds School of Agriculture, again assisted throughout the summer and has completed a series of lessons for live stock clubs which will be distributed to club members during the ensuing club year.

Dairy Calf Clubs.

Dairy calf clubs continue to gradually increase in numbers. Undoubtedly the securing of sufficient heifer calves precludes more rapid increase. Various dairy clubs received calves during the year, Elnora Club holding its first calf club after receiving young heifers from the Edmonton district. This new club made a very auspicious start, all members exhibiting very choice animals.

The dairy club programme is one in which each member receives a calf each year for a three-year period and exhibits it as a calf, yearling and two-year-old. Very excellent achievement days were held at Elnora, Red Deer, Olds, Bowden, Vilna, Smoky Lake, Wostock, Andrew, Springbank, Lethbridge, Rosalind and Didsbury. It is interesting to note that the first prize calf at the Didsbury Junior Calf Show, owned and exhibited by Claude Webb, was later chosen to go to the Toronto Royal Winter Fair, where it stood fourth in a class of 39 entries. Plans are being made to counteract the glamour of the beef calf club sale by the holding annually of a Provincial Junior Dairy Show at one of the "A" Class fairs. At this fair, winners from the dairy calf clubs will exhibit their calf in a Provincial wide competition, and we believe this should do much to increase the interest in dairy calf club work.

Two junior members from each club attended the Alberta Dairymen's Association Convention at Edmonton. Club work was emphasized in a skit performed at this convention, and members also took part in live stock judging competitions. All expenses were paid by the Dairymen's Association, who expressed the desire of continuing such activities.

Swine Clubs.

Swine clubs have decreased from an all-time high number of 30 clubs in 1939 to one club in 1946. The general dissatisfaction of farmers regarding the live stock grain bonus has been in the main responsible for the lack of interest in this project. Undoubtedly, hundreds of young men are still actively engaged in swine raising, but the community interest continues at a low ebb, which may be coupled with the fear of infection Rhinitis being brought on the farm, the result being that interest to carry on swine club work is at a minimum. This is a problem worthy of serious consideration, as the animal marketings of hogs in this Province should justify more club activity in this branch of live stock. Careful consideration is being given to ways and means by which the rural youth of this Province can receive instruction in economical feeding and efficient swine raising, and the new year should see the starting again of more swine clubs.

Poultry Clubs.

Junior poultry clubs activity continues at a low ebb. The unsatisfactory method of operation during the past years may be responsible for the lack of interest shown in this phase of agriculture. Indications are, however, that a revival of interest is apparent for the coming year. The result of this is that a limited number of clubs will be organized and proper supervision guaranteed. The year 1947 should therefore see an increase in the number of clubs in successful operation.

Crop Clubs.

The supervision of crop clubs activity is now fully established at headquarters at Edmonton. Mr. E. C. Hallman of the Field Crops Branch, who has ably assisted for the past number of years, has been superannuated, and Mr. E. Patching of the School of Agriculture at Olds was engaged during the summer months in this type of work. However, the size and scale of this work amply justifies a full-time man engaged in junior grain activities, as much detailed work must be compiled during the winter months and plans and preparation made for the ensuing year. District Agriculturists ably assisted in judging at the numerous junior seed fairs this year. This was a departure from the previous method of having judges sent from headquarters. Evidence received shows much to merit the new arrangement.

A survey of the table of crop club projects shows some interesting facts, namely, that wheat clubs have increased to 34 as compared to 21 in 1945 and 19 in 1944, while oat clubs have again reached the level of 1944, which was the high year in that 25 clubs completed the year's work as compared to 1946 and 1945. Malting barley clubs have dropped to one club using O.A.C. 21 and four clubs using Olli barley, making a total of five clubs compared to eight the previous year. Feed barley has a total of 11 clubs as compared to seven the previous year, while 10 forage clubs operated compared to 14 in 1945. Although overall gain is noted in junior grain clubs, forage, malting and feed barley clubs could be increased in many areas.

Seed supplies distributed to both old and new clubs this year were: Oats, 1,968 bushels; wheat, 1,952 bushels; barley, 588 bushels; forage, 2,520 lbs.; malting barley, 284 bushels.

Wheat and forage clubs were sponsored by the Alberta Wheat Pool, oat clubs by the United Grain Growers' Limited, malting barley clubs by the Canada Malting Company, and feed barley clubs by the Line Elevators Farm Service.

The following are the various awards of 1946 competitions:

Winners of Inter-club Plot Competitions:

Wheat—Department of Agriculture Trophy: Drumheller Junior Wheat Club.
Oats—Albert Seed Growers' Association Trophy: Clive Junior Oat Club.
Feed Barley—Abee Junior Feed Barley Club.
Malting Barley—Airdrie Junior Malting Barley Club.
Forage Crop—Rockwood-Lobley Junior Forage Crop Club.

Winners of Inter-club Seed Exhibits at the Junior Seed Fair:

Wheat—Alberta Wheat Pool Trophy: Rockyford Junior Wheat Club.
Oats—Smoky Lake Junior Oat Club.
Feed Barley—Vauxhall Junior Feed Barley Club.
Malting Barley—Stony Plain Junior Malting Barley Club.

Winners of Awards at Junior Seed Fair for Individual Samples:

Wheat—Alberta Wheat Pool Trophy: Irvin G. Olstad, New Norway Junior Wheat Club.
Oats—United Grain Growers' Trophy and Gold Watch: Peter Krokosh, Spedden Junior Oat Club.
Feed Barley—Line Elevators' Association Gold Watch: David Bradshaw, Bowden.
Malting Barley—Canada Malting Co. Trophy and Gold Watch: Stan Pawlowski, Spedden Malting Barley Club.

Alberta Wheat Pool Shield for Wheat Club with highest General Efficiency Standing for 1945: Raymond Junior Wheat Club.

Inter-club Grain Judging Competition: Won by Everett McCrimmon and Stanley Kowalski of the Bon Accord Junior Malting Barley Club. They were placed second in the National Junior Grain Judging Competition at Toronto.

Provincial Inter-club Judging Contest.

Regional Junior Club judging contests were held at Calgary, Lacombe and Edmonton during the week of October 14th, the final contests being held at Edmonton on October 18th in the seed, beef and dairy contests. Due to the limited number of entries in the potato contest, the finals in this competition were held in Calgary on October 15th.

The following clubs competed in the beef judging contests: Brooks, Claresholm, Balzac, Olds, Lethbridge, Cardston, Carbon, Innisfail, Morinville, Chauvin, Chipman and Bon Accord. Dairy clubs were entered from Lethbridge, Springbank, Didsbury and Rosalind. Seed judging clubs competing were as follows: Bow Island, Vauxhall, Raymond, Cremona, Wayne, Rockyford, Craigmyle, Vermilion, Haight and New Norway.

In the final contests the following clubs competed: Beef (Brooks, Chipman and Innisfail), Dairy (Springbank, Rosalind), Seed (Raymond, Vermilion and Erskine); Potato, (Strathmore, Tilley, New Norway and Vauxhall).

The Provincial winners are as follows:

Kind of Club	Name of Club	Winners	Coach
Beef Calf Club	Nigger John	Stan Berg Enes Berg	Ira Lapp (Brooks)
Dairy Calf Club	Springbank	Dorothy S. Anderson	C. G. Anderson (Calgary)
Seed Judging	Raymond Wheat	Eric A. Longeway John Redd Phyllip Redd	W. R. Hanson (Cardston)
Potato Clubs	Strathmore	J. H. Scheer David Drummond	R. J. Milligan (Strathmore)

The following teams which stood second in the final contests were awarded a free trip to the School of Agriculture for the Efficiency Week:

Seed Judging—Clive Rogan, Vermilion; Derk Miller, Vermilion.
Beef Judging—Thomas J. Phillips, Innisfail; David T. Bradshaw, Innisfail.
Dairy Judging—Ronald G. Friend, Rosalind; James M. Langelle, Rosalind.
Potato Judging—M. A. Timko, Tilley; George Timko, Tilley.

Dominion Contest.

The largest contest ever held was at the Toronto Royal Winter Show. Alberta did not win a championship this year. The members did, however, make a very creditable showing, and stood as follows: Second in the Beef and Clothing projects, third in the Potato contests, and fourth in Seed Judging.

Junior Club Week.

The fifth annual junior club week for proficiency winners in live stock and crop clubs was held at the Olds School of Agriculture, July 15 to 20th, and at Vermilion from July 8th to 13th. This is the top award to one member of each junior club scoring the highest in proficiency in their club programme during the previous year. Cost of transportation, board and room is assumed by the various club sponsors, the Department of Agriculture sponsoring the various live stock clubs.

Winners of the twelve scholarship awards, each valued at $75.00 toward the expenses of the first year of the regular course at one of the Schools of Agriculture, are as follows:

Vermilion School Winners: Arlene Beaudry, St. Paul; Sophie Komhyr, Spedden; Peter Krokosh, Spedden, Stanley Pawlowski, Vilna; David Shantz, Millet; and Stephen Antoniuk, Chipman.

Olds School Winners: Derick Braun, Gem; Courtney Gimbel, Beiseker; Audrey Racher, Champion; Mary Soley, R.R. No. 4, Red Deer; Aileen Strandberg, Clive; and Howard Roppel, Rockyford.

Boys' and Girls' Camps at B Class fairs again in most cases proved very popular attractions. The following fairs held Boys' and Girls' Camps: Lloydminster, July 22nd to 24th; Vermilion, July 25th to 27th; Vegreville, July 29th to 31st.

Farm Girls' Camps were conducted at Red Deer and Vegreville Fairs.

Fair boards assisted in the organization and administration of these camps, which in all cases were under the supervision of the District Agriculturist. In addition, assistance was given by the members of the Vermilion School of Agriculture staff and by Mr. E. Patching and Mr. W. C. Gordon.

The farm boys attending observed the exhibits of live stock, fair displays, and at Vermilion witnessed the show and sale of club calves. Lectures were given on soil conservation, weed control, live stock and grain judging. Competitions were held in both grain and live stock judging. In addition, motion pictures were shown. In some cases, members of these camps were guests of the fair board and attended the grandstand performances. In all cases where supervised sport activities were held, much was added to the programme.

A word of acknowledgement is in order for the assistance rendered by the Alberta Wheat Pool, United Grain Growers' and Line Elevators Farm Service representatives in making these camps a success.

Junior Farm and Home Club Camp and Field Days.

Many junior clubs combine during the summer months to hold one day meets at adjacent attractive lakes, while others have been fortunate in holding a two or three day summer camp. The programme consists of games, movies, talks, and naturally includes swimming, hikes, weiner roasts and eats. This phase of club work is organized by the individual club, and adds much in the way of glamour and attractiveness for the club members. One day picnics can and should be utilized more as they are a splendid means of putting across good educational features—visits to experimental farms, Schools of Agriculture, modern farms and inspection of modern machinery are some of the possibilities. In all, there were too many to mention individually, but they are doing much to assist in keeping club work attractive and interesting. Careful planning ahead ensures much benefit for club members, and this phase of club activities is becoming very popular.

Appointment of Advisory Council on Junior Live Stock Clubs.

A meeting of those interested in Junior Live Stock Clubs was held in the Parliament Buildings on June 24th, 1946. Representatives were present from Breed, Dairy and Exhibition Associations, firms, University of Alberta, and the Dominion Government. A full discussion of club problems ensued, and an Advisory Conncil was appointed, which met on August 29th, 1946.

At the meeting of the Advisory Council, Junior Club rules and regulations were thoroughly discussed and suggested alterations submitted. In addition, many new ideas in both the swine and dairy projects were submitted.

The following representatives form the Advisory Committee: Dairy Manufacturers Association, Commission Firms, Packers, Exhibition Associations, University of Alberta, Dominion Government, T. Eaton & Company, Safeways, Dairy Cattle Breeders' Association, Beef Cattle Breeders' Association, and Alberta Swine Breeders' Association.

REPORT OF ACTING SUPERVISOR OF RELIEF SETTLEMENT PLAN

(E. B. SWINDLEHURST)

During the depression years, Dominion, Provincial and Municipal governments entered into agreement to assist selected families who would otherwise be in receipt of direct relief, to settle upon the land with a view to such families thereby becoming self-supporting. Farms were located by proposed settlers, and upon approval of both the land and the family, assistance was provided during a three year period. A portion of the amount available in each case was reserved for sustenance, but arrangements were made whereby the sustenance reserve could be used for purchase of additional stock and equipment on the desire of the settler, provided he was able to take care of his sustenance requirements at any time during the period mentioned. Many settlers took advantage of this arrangement, and as a result of part time work for neighbours or by the purchase of additional live stock, they were able to support themselves earlier than would have been otherwise possible.

Settlement continued in varying numbers during the years 1932 to 1941, by which time employment conditions were so improved that the burden of relief was reduced considerably. Among those approved for settlement were some who had been on relief for several months. Others had only recently found it necessary to apply for this form of public aid. The chief urge of those interested was to escape from relief conditions, and find a place where they could raise their families in an atmosphere of independence. Many of the children have now grown up and left the farm to take their place in other worth-while occupations. Among the older people are those who have reached the stage where it is necessary for them to take life a little easier and turn over the reins of management to a younger member of the family.

Following settlement, some found themselves ill-adapted to country life and returned to their former status, while others obtained more suitable employment elsewhere. Upon the outbreak of war, several of the younger people left the farm for enlistment. Since settlement under the Relief Settlement Plan was confined to families who would be otherwise in receipt of direct relief, none had a surplus of this world's goods. Some lacked even the bare necessities. A great deal of credit is due to those who took advantage of the assistance offered, and rather than continue to accept direct relief, attempted by this means an independent existence for themselves and their families.

A total of 1,092 families located farms and received assistance. Abandonments to date have totalled 658. Of these, 187 failed in their attempt at settlement and returned to the district of origin; 246 obtained other employment, 76 enlisted, and 149 left the farm as a result of various other causes. Of the remainder, 197 have made full payment of the recoverable portion of assistance offered, and another 88 have made partial payments of their indebtedness.

Total payments to date amount to $69,095.58, of which $13,838.44 was received in 1946. In addition to this amount, $84,513.18 have been recovered as a result of salvage of stock and equipment from settlers leaving the farm.

PROVINCIAL HORTICULTURAL STATION, BROOKS, ALBERTA

(P. D. HARGRAVE)

Introduction.

Information gained on the work carried out at the Station with fruits, vegetables, ornamentals, and miscellaneous agricultural crops during the past year has further added to the fund of data relative to their suitability for the home gardener and the commercial trade. The appearance of the grounds and general well-being of the Station improved this year. Suitable labour for conducting work continued to be difficult to obtain in competition with other organizations following intensive agricultural programmes. During the past season, 24,720 hours of labour were used. Pressure continued for the releasing of land for residential and industrial sub-division. One piece of approximately three acres in area has been released on a replacement basis. The pheasant hatchery, operated by the Department of Lands and Mines and established on Station grounds, was increased in size. Replacement of the barn with a machine shed was undertaken and a new entrance to the east Station opened. These additions and alterations considerably improved the appearance of the grounds. Badly needed machinery and replacements were not available, but the potato grader, designed and constructed at the Station, proved very satisfactory and met with favourable comment in various parts of the Province, where it was used.

A policy of wide distribution of plant materials was recommended by the Horticultural Advisory Board and agreed to by the Nurserymen's Association. To provide materials for this programme an expanded programme of plant propagation has been undertaken. Within a year or two, a large quantity of plant materials will be available.

Field work continued to make heavy demands on staff, and every effort should be made to develop trained assistance in this field. Should specialized crops be grown more widely, competent field help will be essential to meet the demands for information and assistance.

The early spring brought the fruit trees on very early, the first apricots showing color on April 8, reaching full bloom on April 20. Pears and Nanking Cherries were in bloom on April 22. There was a heavy set of all fruit, but 13° of frost on May 10 did a great deal of damage to plant tissues. The leaves of walnuts, butternuts, green ash and many apples were completely destroyed, and new growth was long delayed. Raspberry canes seemed to come through the frost with no apparent damage, but the canes withered and died within three to four weeks and widespread chlorotic conditions were noticed. Wherever plant growth had been heavily sheltered from the south, with a resultant backward growth in the spring, damage was not so severe. Many stone fruits, which were well set, underwent little damage. Vegetable crops of the cool season type did remarkably well during the season, and heavy crops of peas were grown. Hot season crops such as corn and tomatoes were slow in establishing themselves, and although July was warm, the cooler wet weather of August delayed maturity. Potatoes on heavy land were too wet, while those on light land required irrigation during July and August. The fall harvest months were the wettest

in the experience of south-eastern Alberta. As a result only the orchards of headquarters Plots 1 to 8 were fall irrigated. These orchards, the plots across the lake, and orchards 1 nd 2 on the farm received one irrigation during the year. Orchards 4, 5 and 6 were not irrigated.

Climate.

Winter temperatures of 1945-46 were above average, with less snow than usual and fewer chinook winds. Spring-like weather came early in March and continued with very warm-day temperatures and few cold nights, with the exception of a killing frost on May 10th when a low of 19° was registered. This was a period of high winds and rapid evaporation, resulting in serious soil erosion and plant injury and making a great deal of pre-season irrigation necessary. The summer months were relatively free of wind, but a long general chinook period began on December 3rd. No hail occurred during the year. Temperatures for June, August, September and October were below average, and precipitation for the latter three months was heavier than average. Precipitation for June was 3.26 inches spread over the month with no heavy rains. Climatic conditions for July were about average for that month although precipitation was slightly below average. The first killing frost of the fall occurred on September 23rd, when the temperature went down to 27° and remained there for a considerable period. This gave a frost-free period of 137 days. Maximum, minimum and average temperatures, as well as precipitation, are given in Table 1. Precipitation for the year was 17.56 inches as compared to a long time average of 11.98 inches. Most of this occurred during the harvest season, which is unusual. Snow and winter weather set in on November 1st with below zero temperatures occurring from November 18th to the end of the month. By November 20th, there was 14 inches of snow on the level, but very little drifting had occurred.

The Strathmore Substation experienced a normal climatic season with normal bloom which escaped the late frost. The summer, although cool, was not wet. There was a long harvest season broken by rains. These were, however, lighter than those experienced at Brooks. The orchards were fall irrigated. The last killing spring frost occurred on May 14th and the first killing fall frost on September 23rd, giving a frost-free period of 132 days.

Table 1
TEMPERATURES AND PRECIPITATION, BROOKS

Month	Max.	Min.	Av. Max.	Av. Min.	Precipitation	Average Precipitation
January	43	—22	28.1	5.6	.25	.47
February	48	—13	29.9	5.8	.21	.48
March	68	12	48.5	26.9	.26	.65
April	78	21	63.3	33.6	.12	1.10
May	82	19	64.7	37.3	1.42	1.54
June	83	42	70.4	47.4	3.26	1.84
July	98	45	84.1	53.4	.83	1.50
August	96	41	72.9	50.4	3.51	1.31
September	84	27	67.4	40.6	2.77	1.25
October	66	12	55.1	28.4	3.22	.68
November	60	—20	28.2	18.6	1.71	.47
December	46	—26	22.7	6.2	.33	.70

Fruit.

It is interesting to note that some varieties of fruit in the test orchard gave moderate to good yields following a mild spring with a late, severe frost. Many of the newer introductions produced the most fruit. No varieties yielded heavily, and as a result the fruit

was large and well developed. The early plum varieties Tecumseh, La Crescent, Radisson, Pembina, Assiniboine, Minnesota 89, Norther, and Ojibwa gave good returns. The cherry plum hybrids were below average. Very little fruit set on the early blooming *Prunus salicina* selections. There were no pears. Nanking cherries were scattered, but *Prunus cerasus* (Koslo Morello cherries) bore heavily.

Apple and crabapple yields were variable. Osman bore well. Dolgo produced a fair crop. Prince, Piotet, Piotosh, Brooks No. 10, Trail, Rescue, Rosilda, Heyer No. 12, Pioneer No. 10, Morden 353, Atlas, Blush Calville cropped well. Many other varieties bore scattered crops. The small fruit crop was light, with Chief being the only raspberry that did not show severe wood injury as a result of the May frost.

On the Substation at Strathmore the fruit crop was noticeably different. A splendid crop of apricots was harvested, with many selections being made for propagation and further testing. *Prunus salicina*, the seed for which came from Manchuria, bore well, and a selection and culling programme was carried through. The most promising trees are marked for layering, but before any particular selections are made the fruit will be scored in canning tests. This is necessary because of the characteristic musk flavour associated with this species. The objectionable flavour is not apparent when the fruit is eaten fresh, but is accentuated by the canning process. This species appears to be hardy and early ripening. When satisfactory selections are developed they should extend the use and adaptability of stone fruits in Alberta. Nanking cherries at Strathmore were also outstanding. Selections from flowering currants have been propagated, and will be available for wide distribution within the next two years. The flowering currant selections are distinctly different from those usually grown, being milder and having a more palatable flavour as well as being exceptionally large in size and oval shaped. The Strathmore selections ripen much earlier than those made at Brooks, although they are very similar in growth habit. Osman and Florence crabapples were the most persistent yielders, with Dolgo and Rosilda almost as good. Heyer No. 12 and Rescue also bore good crops. Very few of the old varieties of apples and crabs have sufficient vigor to blossom and bear good crops under conditions at the Substation. Stone fruits of most of the varieties mentioned previously as doing well at Brooks bore fruit at Strathmore, but were not suitable for picking until four or five weeks later in the season. In general, stone fruits do not mature early enough to be satisfactorily included in most orchards of central and northern Alberta.

Stocks for budding and grafting of fruit trees were in short supply due to the seed shortage of the past two years. This is a general condition throughout Western Canada making for a short supply of nursery stocks to meet the tremendous and increasing demand.

Extension.

Demands in the field of horticultural education and the dissemination of information about specialized crops was greater this year than it has been in the past, but due to limited staff the work undertaken was restricted. Staff personnel assisted in 42 programmes, made up as follows: 16 short courses, 11 field days, 9 Junior Club achievement days, 4 horticultural show judging teams, and 2 radio

talks. Two weeks were also given to the National Film Board in the preparation of a film dealing with the improvement of farm home grounds. This film is being developed with the prairie farm home as its background.

The picnic grounds at the Horticultural Station were used for 11 organized meetings. Small groups used these same grounds for picnics on every Sunday that weather permitted, and on many special holidays. The staff took an active part in spreading information relative to potato culture. Demands along this line were much greater this year due to the 100% increase of potato acreage in the immediate district. Arrangements were made for the distribution of 24 tons of Foundation A and Certified seed potatoes, grown, stored and graded on the Station's experimental plots, and undertook the ordering and distribution of two carloads of seed potatoes from Lacombe and Prince Edward Island. This total distribution amounted to 72 tons, or 190 acres of better seed.

The shortage of seed stocks due to the last three lean years of fruit harvest has markedly reduced the amount of material propagated. This reduction in available plant material was felt for the first time during the shipping season. Only 69 shipments of fruit stocks were made. Every effort has been made during the past summer to overcome a shortage of fruit stocks, and the supply should be back to normal by 1948 provided propagation seasons are favourable.

Four new demonstration orchards were established and replacements went to eight established plantings.

Co-operative Trials.

Co-operative trials with tomatoes, sugar beets and other specialized crops were conducted jointly with the University of Alberta, Dominion Department of Plant Pathology, McCabe Elevators, Dominion Experimental Farms, and with vegetable producers in this district.

The sugar beet trials were three-fold in purpose, including (1) a variety test, (2) a fertilizer test, and (3) tests for sugar content. Reference to Table 2 indicates yields and sugar content of beets grown with and without fertilizer. It is interesting to note that phosphate fertilizer has a beneficial effect on yield but not on sucrose percentage. The sucrose percentage varies with variety.

TABLE 2

SUGAR BEET FERTILIZER TEST

(tons per acre)

Variety	Fertilizer Treatment	Total Yield	Mean Yield	Percentage of Sucrose	Mean Percentage of Sucrose
No. 1	Fert.	58.63	14.21	69.5	17.4
	Not Fert.	53.47	13.37	70.0	17.5
No. 2	Fert.	58.42	14.60	70.8	17.7
	Not Fert.	55.65	13.91	69.8	17.4
No. 3	Fert.	50.88	12.72	73.2	18.3
	Not Fert.	43.75	10 94	72.6	18.2
No. 4	Fert.	46.14	11 54	72.6	18.2
	Not Fert.	40.00	10.00	73.9	18.5

In co-operation with the McCabe Elevator Company, fertilizer tests were laid down on their pea increase plots, using variable amounts of fertilizer on three varieties of peas. Samples were harvested for yield and data submitted to the Fertilizer Committee.

As a supplement to the tomato trials and selection work being carried on at the Station, four large co-operative field trials were

set out with farmers in the district. These trials were used for selecting outstanding plants from particular lines that have proven themselves promising in Station trials. All of the varieties were of the determinate habit of growth, and were selections from Bounty, Bison, B.V. No. 5, Lethbridge 3700, Early Chatham and Sioux. The latter variety, an introduction from Nebraska, with Bounty, were the most favourable to commercial growers, although both varieties are late for the commercial market. Suitability for the commercial market is the final test of varieties selected. This is not the case with varieties for the home garden purposes, most suitable of which for central Alberta are Early Chatham, Lethbridge 3700, and B.V. No. 5. A total of 15,800 plants were grown in the Station greenhouse for testing purposes.

Vegetable Varietal Trials

Included in the varietal trials were tomatoes, peas, beans, peppers, potatoes, and corn. The corn test included sweet corn, pop corn, and field varieties.

Tomato Varietal Trials.

Tomato varietal tests again took a prominent part in the Station programme with 108 varieties included. Emphasis is placed first on early yielding ability, second on size, and third on color. Tomatoes for the home garden need not be large, but size is of paramount importance in commercial packs. Color is also important in this latter case, and is possibly the weakest point of the most recently introduced varieties, all of which are outstanding in yielding ability. By referring to Table 3 it will be noted that the yield of ripe fruits per plant during the past season was much lower than usual, due to the unusually cool, wet fall season. New varieties and selections are to the fore with an almost complete change as to high yielding varieties over that of 1941. Redskin and Bounty were not far down the list. The regular canning varieties were unsatisfactory during the past season. These tests included the following varieties with their relative yield per plant: Bounty 18 oz., Farthest North 17 oz., Bison 10 oz., Early Chatham 15 oz., Princess Mary 8 oz., Redskin 8 oz., Alred 4 oz., Burbank 4 oz., John Baer 2 oz., Earliana 1 oz., Geneva John Baer 1 oz.

TABLE 3

TOMATO COMPARATIVE YIELD TESTS

1941:	Highest yield tons per acre	1942:	Highest yield tons per acre
Bison A3	24.6	Red Skin	4.8
Bounty	22.5	B.V. No. 5	2.8
Bison A1	22.5	Simmonet Hybrid	2.3
Alred	20.6	Bison Reg.	1.9
Farthest North X Burbank	19.6	Bison A3	1.4
Earliana	2.9	Earlian (Stokesdale)	2.4
1944:		**1946:**	
Lethbridge 3700	10.9	Early Chatham	7.7
Alred	8.9	Farthest North X Sunrise	7.0
Redskin	7.0	Lethbridge 3700	7.0
NDAC 38	6.7	Coop. 434	4.2
NDAC 303	6.7	B.V. No. 17	4.2
ND 500	6.5	Bounty Sel. A2	4.2
Farthest North	5.5	Farthest North	3.0
Earlian B.S.	.3	Earliana	.1

1943 and 1945 not included due to hail and frost damage.

Peas and Beans.

The work with peas and beans was carried on primarily to supply material for freezer tests. Thirty varieties of peas and 51 varieties of beans were included in this programme. Notes were taken on

plant habit, date of maturity, and relative yields. Pod size, color, and shape were given study because of the importance of these factors to the processor, both home and commercial. Of particular note in this test was the relative lateness of all the pole beans. Decatur, followed by Washington Wonder, Kentucky Wonder, Potomac, Blue Lake, Scarlet Runner, Scarlet Emperor were ready for use in the order named starting August 5th and continuing to August 28th. Very few of the green or wax beans were later. One of the outstanding late wax beans was Dwarf Florida White Wax. None of the bush Lima beans matured sufficiently to be used in any of the tests.

Of the 30 pea varieties chosen for their freezer characteristics, all were ready for use between July 14 and July 29. This emphasizes the importance of spaced planting dates for long season use.

Potato Varietal Trials.

Replicated tuber unit plantings of 31 potato varieties were again established for yield information. The 10 leading varieties for 1945 and 1946 are listed in Table 4 with their calculated yield in bushels per acre. It is of particular interest to note that Netted Gem, the most widely grown commercial potato, was rated 16th in yield in 1945 and 15th in 1946. The average yield of all varieties in 1945 was 381.8 bushels per acre and in 1946 was 435.2 bushels per acre.

TABLE 4
1945-46 POTATO VARIETAL TUBER UNIT YIELD TEST
(bushels per acre)

Variety	1945 Yield	Comparative Placing 1945	1946 Yield	Comparative Placing 1946
Carter's Early Favorite	518.68	1	541.47	1
Lacombe No. 5	327.03	20	540.87	2
Columbia Russett	400.90	14	537.24	3
U.S.D.A. Sdlg. No. 4712			523.32	4
Early Vermont	443.66	6	517.27	5
Early Eureka	385.17	15	514.25	6
Irish Cobbler	452.54	5	513.04	7
Canus	231.70	26	505.78	8
Red McLure	262.55	24	498.52	9
Katahdin	285.01	21	482.18	10
Early Epicure	419.98	10	470.69	14
Netted Gem	358 48	16	459.19	15
Warba	500.60	2	437.41	18

Potato Fertilizer Test.

Fertilizer trials were begun in 1942 with exploratory tests. Permanent trials were laid down in 1943, and we now have the yields for four years. These tabulated results appear in Table 5 in bushels per acre with the average for the four years' work. It is to be noted that when phosphates are added with nitrogen and/or manure, there is a definite indication that the yield is improved. These potato trials were supplemented with a new cultural fertilizer trial in the spring of this year, in which cultural practices as to cropping and fertilizer application will be investigated as to their effect on potato yield during the next few years.

TABLE 5
POTATO FERTILIZER TEST

Fertilizer	Lbs. per acre	Yields 1943	1944	1945	1946	Av. Yield of 4 years
Check		180.3	384.0	296.9	378.7	309.9
Triple	150	217.4	335.5	292.1	389.3	308.6
11-48	119	196.0	434.4	358.3	385.3	343.5
11-48	238	173.4	392.2	323.2	385.6	318.6
2-19	294	*179.6	*332.2	333.4	417.1	315.6
Nitraprills	82			323.6	371.2	
Manure, tons	20	201.5	395.0	305.4	426.7	334.6
Manure and Triple	150	183.8	414.5	311.9	427.5	334.4
Manure and 11-48	119	199.4	444.1	334.4	415.2	348.3

*2-20 at 285 lbs. per acre.

Corn Tests.

Due to the wet cool season, sweet corn matured late. This was noticeable in the corn varietal trials, in which 64 varieties of sweet corn were included. Of these, 39 were ready for use by August 30. Between August 30 and September 13, three more varieties matured. In the trials emphasis is placed on two factors: (1) Suitability for home garden and (2) suitability for commercial processing. All of the corns ready for use by August 15 were suited to the home garden and some of them would be well adapted to freezing and canning. These varieties were, in the order of maturity: Alpha Gold, Earliest Pioneer Hybrid, Seneca 60, Golden Gem, Dorinny, J-6 Cross, Banting, Seneca Dawn, Marcross and Lethsun Hybrid. The first two mentioned, Alpha Gold and Earliest Pioneer Hybrid, are sweet corns well adapted to trial in central and northern Alberta gardens. Alpha Gold is slightly flat in flavour, but Earliest Pioneer Hybrid is medium sweet with an attractive cob about 5½ inches in length. All of the varieties maturing were given freezer tests and some were canned.

The pop corn test is directed primarily for the search of early maturing strains of open pollinated hybrid varieties. The older varieties, Blue Snow, McGhee's White, Snow White, and Pinky were the only varieties maturing sufficiently to warrant harvest. None of the new hybrids introduced for test because of their promising reports proved satisfactory.

In the field corn trials, 25 varieties, including the open pollinated strains and hybrids of promising earliness, were included. The test is directed primarily to the search for corn that will supply sufficient growth for forage, ears that will mature, and upstanding habit of growth, in the hope that suitable material will be found for use by live stock feeders for the fattening of early lambs and the carrying of beef cattle through the harvest season for later feed lot use. The most promising varieties of hybrids in the order of maturity are: N13 Hybrid, 803 G 31, Wis. 279. Open pollinated type: Assiniboine, Gehu, Northwestern Dent. The hybrid varieties are much more vigorous growers and supply a higher percentage of forage.

Hops.

In the spring of 1945 a start was made in the establishment of a hop yard at the Station so that this crop might be tried out as to its commercial possibilities in this district. Six varieties were planted, and all survived the winter of 1945-46. First harvest was taken late in August of this year and the crop was submitted to brewers and commercial growers for comment as to its quality. Cones at harvest time were not as ripe as might be desired. This was due to the cool wet weather experienced during the season. In a normal year cones would have been fully ripe. The crop was grown without spraying or dusting and insect fungus diseases were not apparent. A view of the yard at harvest time is shown in Fig. 1. Varieties grown are: Brewer's Gold, Brambling, Early Cluster, Fuggles, H. Ord, and Late Cluster.

Tobacco.

The Horticultural Advisory Board recommended that tests of tobacco varieties be established at Oliver, University of Alberta, Olds School of Agriculture, Dominion Experimental Station at Lethbridge, and the Provincial Horticultural Station, Brooks. The latter Station was to supply plants if possible for the other locations.

Twenty-five varieties of tobacco were grown and the control plot established at this Station. The control plot had all 25 varieties planted in replicated rows containing 42 plants set 24 inches apart in the row, with the rows 3 feet apart. Sufficient plants for single rows of each variety were sent to Olds, Oliver, and the University.

Records have been kept at the Station on topping, harvesting method, dates of suckering, and maturing of the various varieties. Samples of each variety were harvested and air-dried, baled, and sent to tobacco centres for classification as to quality. The tobacco at this Station did very well, and comment from experienced tobacco people was favourable. Figures 2 and 3 give a good general view of the field and a close-up of the tobacco varietal test. In the close-up the tobaccoes in the foreground are Haranova and Harrow Velevet. During the growing season every encouragement was given to the tobacco companies to inspect the crop, but it was not convenient for them to be in the west at that time. It is hoped that if this work is continued, proper curing facilities will be available and an opportunity to investigate the cultural practices of commercial areas made possible, so that a better understanding of the crop's requirements might be gained.

Frozen Foods.

The results of the frozen foods processed during the summer of 1945 were presented to the Frozen Foods Convention in the spring of this year. The information was well received, and encouragement was given to continue investigations so that the information available on Alberta grown varieties would be more specific. With the co-operation of the staff of the Women's Extension Service, peas, beans, corn, peppers and rhubarb varieties were processed and will be scored as to varietal suitability and processing method. During this test, 441 packages were stored.

Conclusion.

Shelterbelt planting and land levelling will have to be extended to provide suitable areas for the multiplication and testing of horticultural crops.

Together with this programme, every effort must be made to provide the people of the Province with reliable horticultural information and the idealism associated with horticulture and better home surroundings.

Views of Tobacco Test Plot, Brooks, 1946

Views of Hop Harvest, Brooks, 1946

REPORT OF THE SUPERVISOR OF FUR FARMS

(Covering the period September 1st, 1945, to August 31, 1946)

(J. KEITH)

The administration of Fur Farms was transferred from the Department of Lands and Mines to the Department of Agriculture on April 1st, 1946. The transfer took place because fur farming was considered to be a branch of agriculture. No changes of importance occurred as a result of the transfer, as the services formerly given were maintained.

Breeding Stock.

Due to the keen demand for mink pelts throughout the previous season, a marked increase in the number of mink retained as breeders was noted, whereas the number of foxes carried over for the same purpose remained about the same.

Production.

The crop of young foxes and mink was very satisfactory to the fur farmers, there being a normal increase in the foxes and a better than average increase in the mink, after taking into consideration the extra number of breeding stock retained to produce this crop.

Feed Supply.

The main source of feed supply for fur-bearing animals is meat obtained from the surplus stock of horses in both the farming and grazing areas, and coarse (non-commercial) fish from the Northern Lakes. The latter are consumed largely in the neighbourhood of the lakes from which they are taken, although a small percentage are available for the fur farmers in the Edmonton and Wetaskiwin districts.

Those fur farmers who operate on a scale to warrant buying and processing horses for use on their own ranches have not so far met with any real shortage of supply, but those who have been depending upon the Horse Co-operative Marketing Association in Edmonton to supply their seasonal requirements were faced with not only a shortage in the supply, but also a serious depreciation in the quality of the feed which, particularly in the ground article, consisted largely of entrails and meat having an extra heavy proportion of fat. This type of feed is very detrimental to the growth and general health of young stock.

The services extended by Red Top Products of Calgary to the breeders in the southern part of the Province have been on the whole quite satisfactory.

It is now recognized by all fur farmers that it is doubtful if sufficient horse meat will be forthcoming to meet their requirements. Should this source of supply prove inadequate, a satisfactory substitute would have to be obtained or fur farmers might be forced out of business.

Health.

The general health of the animals on fur farms has been good throughout the Province.

Disease.

An outbreak of distemper affecting both foxes and mink occurred in September on one fur farm in the McLeod district from which some mink were purchased and transferred to a fur farm in the Waterton area, resulting in a serious outbreak there also. Fromm's Live Virus Distemperoid Vaccine was used on the foxes at both places, and Lederle's Canine Distemper Serum was used on the mink. Through delay in reporting this sickness when it started, the losses on both places were very heavy before it was finally checked towards the end of October.

Outbreaks of distemper among mink occurred at Canyon Creek, Faust and High Prairie. The fur farmers involved at these points, being conversant with the symptoms of this disease, reported the outbreaks almost immediately they occurred. At this time Lederle Laboratories in New York, through their Edmonton Branch, supplied free one thousand 2 c.c. doses of their new product named Canine Distemper Vaccine (ferret origin) for mink for testing purposes. This vaccine was administered by Dr. G. S. Wilton of the Veterinary Laboratory, who covered the infected fur farms for this purpose. The reports received from the fur farmers subsequent to vaccinating were very satisfactory in respect to the results obtained.

Control of Disease.

For a number of years a periodical recurrence of distemper among mink has been experienced at various points along the shore of Lesser Slave Lake. This condition, in my opinion, is due to a great extent to a lack of efficient guard fence to protect the mink from stray dogs, which at certain seasons are infected with distemper. These dogs, not being fed regularly or not at all, frequent the mink yards for feed scraps, and when opportunity presents gain access to the feed houses and contaminate the food, spreading infection to the mink.

The Provincial Laboratory has continued the custom of producing vaccine from sick mink supplied from the seat of an outbreak and shipping the vaccine to treat all of the animals on the infected farm *free of charge*. This process entailed a delay of approximately one week, during which period the disease was spreading, resulting in heavy losses among the stock.

In order to overcome this handicap and to assure that the breeders should have the opportunity to vaccinate their stock for prevention, an order was placed with Lederle for 25,000 doses of 2 c.c's to be held in cold storage at their Edmonton Branch to be drawn upon as ordered, the price being seventy cents per dose. All of the fur farmers in those areas particularly subject to distemper infection were circularized respecting this service, but the response to this appeal was far from satisfactory, resulting finally in Lederle withdrawing from Edmonton the unused portion of their stock of vaccine amounting to 9,100 doses.

It is regrettable that this source of vaccine was withdrawn. Undoubtedly, the fact that it was not utilized more fully is because vaccine could be obtained free of charge from the Laboratory.

Field Days.

Due to the prevalence of distemper in the Lesser Slave Lake and Lac La Biche districts, their field day appointments were all can-

celled. However, field days were held at the following points: Camrose, October 23, 1945; Stettler, October 24, 1945; Red Deer, October 25, 1945; Drumheller, October 26, 1945; Brooks, October 27, 1945; Wabamun, November 3rd, 1945.

The attendance at these points was very gratifying, and the number and quality of both foxes and mink submitted for examination and placing were a distinct improvement over the animals exhibited during the previous season. All those participating and the spectators expressed their appreciation of having the opportunity to offer their animals for comment and grading, and hoped there would be a continuation of this service to each locality.

Live Animal Show.

This event was held in a building at the Edmonton Exhibition Grounds on November 5th to 8th (inclusive). The weather conditions were very unfavourable, being excessively cold and stormy, and the light for judging was also very poor.

The show was well supported by fur farmers from all sections of the Province, also from British Columbia, Saskatchewan and Manitoba. There were 288 foxes, 643 mink, 6 chinchilla, 7 marten, and 3 fisher. The entries for mutation mink being the feature of the show, comprising about 60% of the total entries of mink.

The judges were Geo. Calbeck of the Canadian Silver Fox Breeders' Association, Summerside, P.E.I., for foxes, and George Mayer, Manager of Lampson, Fraser & Huth, New York, judged the mink.

The accommodation provided for the estimated number of entries fell considerably short of the requirements, which necessitated the construction of a number of display stands after the entries were completed and while the judging was in progress, which was a regrettable feature of the show. The prize awards were well distributed among the breeders, especially so in the mink classes, while the larger ranchers captured the bulk of the awards in the fox classes.

Pelt Show.

This show was held in the City Market Building, Edmonton, which was found to be very suitable for this purpose, being commodious, and all pelts were able to be displayed to advantage. The show covered the days January 2nd to 4th inclusive, and was well supported by the breeders in the Edmonton district, but the entries from the southern section were neither numerous nor did they contain many pelts. The mink entries, although in excess of the previous season, were far short of what could reasonably be expected. This condition in great part was due to the desire of the breeders to take advantage of the early pelt sales. The totals were 264 foxes and 115 mink. Colin MacDonald judged the foxes and J. Keith judged the mink.

Markets.

Foxes sold fairly well at the early sales, especially the better types in mutations, but the standard silvers were a very slow moving article, with values at figures barely covering the cost of production. There is a heavy carry-over in foxes of all types, which does not improve the prospect for the new season's crop. There is, however, a noticeable trend in fashion styles for renewed interest in fox fur, which will improve the outlook for fox breeders, but it is

doubtful if they will derive much benefit from this prospect in the disposal of the 1946 crop.

Mink presents an entirely different picture, this article remaining in strong demand through the entire season with no carryover.

Mutation mink pelts realized fancy prices at the New York Auction Sales, where they were all assembled through the medium of the Canadian Mutation Mink Breeders Association, working in conjunction with a similar Association in the U.S.A. The pelts were all tanned prior to being offered for sale, which is an added inducement for obtaining better prices than if they were offered in the raw state.

Standard mink brought highly remunerative values to the producer with a gradual advance right to the end of the sales season. There is no doubt about there being a heavy decline in this article when the 1946 crop is offered, and those who sell early will undoubtedly realize the best prices.

Inspection of Fur Farms.

Eighty-one furfarms were inspected during the season, while 34 were serviced for the selection of animals to be retained as breeding stock. Assistance was given to nine in the selection of animals for exhibition at Calgary, Winnipeg and Vancouver Live Animal Shows.

There is a great need for more inspections being conducted annually, but the season for inspection is limited in each year, due to all fur farms being closed to strangers from the commencement of the mating season for foxes as from the middle of January to weaning time about the middle of June.

There should be not less than 200 fur farms visited each season from July 1st to October 15th covering a different section of the Province each year. In this way, the individual breeder would receive direct help in respect to stock improvement and better housing equipment wherever necessary. To enable this to be carried out, there should be additional office help secured during the period when fur farm annual reports are being checked and licenses are being renewed, which would cover from September 1st to November 30th.

When the inspection season finishes at the middle of October, the field day circuit commences, finishing in time for attendance at the Live Animal Show, after which pelting commences. A certain amount of selection of breeeding stock is handled at this time.

Fur Farming Literature.

During the winter when travel is difficult, time could be well devoted to compiling bulletins bearing on the various aspects of fur farming, for which there is a steady call from all sections of this and other Provinces.

NUMBER OF ANIMALS DECLARED ON FUR FARMS IN ALBERTA, 1945-46

Kind of Animal	Total No. of Animals	Av. Value per Animal	Total Valuation
Fox, Silver	10,156	$ 29.75	$ 302,141.00
Fox, White Marked	10,819	36.90	399,221.10
Fox, Platinum	3,541	68.25	241,673.25
Fox, Platinum Silver	2,730	63.35	172,945.50
Fox, Pearl Platinum	450	58.00	26,100.00
Fox, Pearlatina	338	58 00	9,604.00
Fox, Glacier Blue	4	200.00	800.00
Fox, Arctic Blue	966	37.00	35,742.00
Fox, Cross	345	30.00	10,350.00
Fox, Red	78	9.00	702.00
Mink, Standard	133,305	27.50	3,665,887.50
Mink, Silver-blu	1,810	140.00	253,400.00
Mink, Blue Frost	591	128.00	75,648.00
Mink, Black Cross	634	128.00	81,152.00
Mink, Blue Cross	21	150.00	3,150.00
Mink, Pastel	75	150.00	11,250.00
Mink, 95% White	71	76.00	5,396.00
Mink, Snow White	2	150.00	300.00
Mink, Other Mutations	788	35.00	27,580.00
Chinchilla	216	500.00	108,000.00
Marten	92	90.00	8,280.00
Fitch	384	5.00	1,920.00
Nutria	93	5.00	465.00
Lynx	8	90.00	720.00
Raccoon	23	4.00	92.00
Coyote	12	8.00	96.00
	167,552		$5,452,615.35

NUMBER OF ANIMALS PELTED ON FUR FARMS IN ALBERTA, 1945-46

Kind of Pelt	Total No. of Pelts	Av. Value per Pelt	Total Valuation
Fox, Silver	7,403	$ 19.50	$ 144,358.50
Fox, White Marked	5,410	23.25	125,782.50
Fox, Platinum	1,110	42.50	47,175.00
Fox, Platinum Silver	1,009	40.75	41,116.75
Fox, Pearl Platinum	32	27.50	880.00
Fox, Pearlatina	43	31.00	1,333.00
Fox, Arctic Blue	610	17.50	10,675.00
Fox, Cross	317	14 00	4,438.00
Fox, Red	62	8.00	496.00
Mink, Standard	73,216	24.50	1,793,792.00
Mink, Silver-blu	125	90.00	11,250.00
Mink, Blue Frost	159	70.00	11,130.00
Mink, Black Cross	28	72 50	2,030.00
Mink, Other Mutations	270	33.50	9,045.00
Chinchilla	40	23.00	920.00
Marten	10	58.00	580.00
Fitch	280	5.50	1,540.00
Nutria	3	3.00	9.00
Raccoon	8	2.75	22.00
Coyote	12	6.00	72.00
	90,147		$2,206,644.75

NUMBER OF ANIMALS RETAINED FOR BREEDING STOCK IN ALBERTA, 1945-46

Kind of Animal	Total No. of Animals	Av. Value per Animal	Total Valuation
Fox, Silver	2,752	$ 30.00	$ 82,560.00
Fox, White Marked	5,409	35.00	189,315.00
Fox, Platinum	2,424	57.50	139,380.00
Fox, Platinum Silver	1,721	55.00	94,655.00
Fox, Pearl Platinum	418	40.00	16,720.00
Fox, Pearlatina	295	40.00	11,800.00
Fox, Glacier Blue	4	60.00	240.00
Fox, Arctic Blue	341	25.00	8,525.00
Fox, Cross	28	15.00	420.00
Fox, Red	16	12.00	192.00
Mink, Standard	59,831	40.00	2,393,240.00
Mink, Silver-blu	1,660	175.00	290,500.00
Mink, Blue Frost	428	150.00	64,200.00
Mink, Black Cross	601	150.00	90,150.00
Mink, Blue Cross	18	175.00	3,150.00
Mink, Pastel	75	175.00	13,125.00
Mink, 95% White	71	75.00	5,325.00
Mink, Snow White	2	75.00	150.00
Mink, Other Mutations	486	40.00	19,440.00
Chinchilla	170	350.00	59,500.00
Marten	60	90.00	5,400.00
Fitch	98	10.00	980.00
Nutria	90	5.00	450.00
Lynx	4	80.00	320.00
Raccoon	16	5.00	80 00
	77,017		$3,489,817.00

NUMBER OF LIVE ANIMALS EXPORTED FROM ALBERTA, 1945-46

Kind of Animal	Total No. of Animals	Av. Value per Animal	Total Valuation
Fox, Silver	1	$100.00	$ 100.00
Fox, Platinum	7	150.00	1,050.00
Fox, Arctic Blue	15	40.00	600.00
Mink, Standard	257	50.00	12,850.00
Mink, Silver-blu	25	175.00	4,375.00
Mink, Blue Frost	4	150.00	600.00
Mink, Black Cross	5	150 00	750.00
Mink, Blue Cross	3	175.00	525.00
Mink, Other Mutations	32	50.00	1,600.00
Chinchilla	6	350.00	2,100.00
Marten	22	90.00	1,980.00
Fitch	6	10.00	60.00
Lynx	4	90.00	360.00
	387		$ 26,950.00

LICENSED FUR FARMS IN ALBERTA, 1945-46

Fox	196	Lynx	1
Mink	992	Marten	2
Fox and Mink	55	Nutria	8
Chinchilla	12	Raccoon	2
Coyote	1		
Fitch	7		1,276

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Date Due

JUN 16 '66
OCT 19 '83
APR 30 '83
APR 29 RETURN
DUE CAM MAY 31
JUL 10 RETURN
DUE CAM AUG 21 '90
DUE CAM OCT 02 '90
SEP 19 RETURN
DUE CAM JUL 03 '91
Due Cam AUG 14 1991
Due Cam OCT 04 1991
SEP 25 RETURN
Due Cam OCT 09 1991
OCT 02 RETURN
Due Cam NOV 13 1991
DUE CAM DEC 24 '91
JAN 08 RETURN

Due Cam FEB 14 1992
DUE CAM MAR 28 '92
Due Cam MAY 09 1992
JUN 17 1992
Due Cam AUG 11 1992
OCT 14 1992
OCT 18 RETURN